INTEVAC

2019 Annual Report | 2020 Proxy Statement

Intevac, Inc.

Letter to Our Stockholders

Intevac, Inc.

[THIS PAGE INTENTIONALLY LEFT BLANK]

Letter to our Stockholders

2019 was a year of important progress in our strategic growth initiatives, with significant momentum and a number of milestones achieved in both Photonics and our Thin-Film Equipment or TFE business. We achieved our primary financial objectives to report year-over-year revenue growth, profitable operations, positive free cash flow, and a net increase in our cash and investments for the year.

We received an all-time record order in our Photonics business, introduced our new high-productivity platform and ultra-durable coating technology for the display cover glass market, achieved a record volume of system sales into the high-efficiency solar cell manufacturing market, and successfully installed our first evaluation systems into the display cover glass and advanced semiconductor packaging markets. These highlights display the successful accomplishments we achieved during the important year of growth in 2019.

PHOTONICS

We achieved strong revenue growth in 2019, with significant momentum building in support of our long-term growth initiatives. Revenues increased 37% year-over-year, growing sequentially each quarter, primarily driven by the strong ramp of development revenue from the IVAS program.

IVAS, or Integrated Visual Acuity System, is the first ground-soldier program for the US Military that requires digital night vision. Our current contract is for the development and delivery of the initial lot of digital night vision camera modules. With success in this initial phase, the projected volumes of camera modules to be fielded to the dismounted soldiers will be in the hundreds of thousands of units. This is an important program for Intevac Photonics, and represents the largest revenue growth opportunity for this business over the next several years.

We completed the development of our next-generation night vision technology during the year, finalizing the initial performance qualifications for the ISIE-19 sensor design. Supported by the US Government, we now have successfully met the design specifications required to take digital night vision to its next level of performance.

In 2019 we also announced an all-time record order in Photonics of $40 million, and achieved a record $63 million in Photonics orders in total for the year. Combined with the IVAS award received in late 2018, we ended 2019 with record year-end Photonics backlog of $71 million, a 62% increase from 2018. We continue to announce incremental awards that build upon our backlog, providing multi-year visibility for continued strong growth and profitability for the business.

THIN-FILM EQUIPMENT

We were pleased to report revenue growth in our TFE business in 2019. Revenues from the hard disk drive (HDD) industry were down a bit in 2019, due to a lower level of upgrade business compared to a record level in 2018. Despite this, we grew revenue in our TFE business by 6% over 2018 by shipping nine ENERG*i* systems during the year, achieving a record level of sales to the high-efficiency solar cell manufacturing market.

Today we serve four markets in our TFE business: HDD, solar, display cover panel (DCP) and, most recently, advanced semiconductor packaging. In the HDD market, media unit demand gained positive momentum through 2019, with increased HDD demand from the Cloud-based storage market driving a significant increase in the average number of disks per drive. This growing “tie ratio” supports the growth forecasts for HDD media of 8% annually through 2024, in support of the >20% annual growth rate expected for exabytes shipped on hard drives. The takeaway from this long-term outlook is that our HDD business continues to be strong and profitable.

In the solar market, we are encouraged by the record revenues achieved in this market during 2019. We continue to have confidence in the future potential for the ENERG*i* product line. After our customer accelerated their tool delivery schedule in 2019, we have continued to discuss their need for additional tools in support of a multi-gigawatt capacity expansion in China, which would utilize our technology as well.

In the display cover glass industry, we made significant progress in 2019 executing on our strategies to expand our current footprint in this very large market, which continues to offer the largest growth potential over the next few years for our TFE business.

We developed and launched the new VERTEX Marathon™ system, enabling our most advanced oDLC technology, the ultra-durable *DiamondClad*™ coating, to be applied at significantly reduced costs. We believe both the Marathon system and *DiamondClad* films enable the performance of our protective coating to approach that of sapphire, while dramatically reduce the cost of depositing the coatings on cover-glass. The technological capability offered at a low cost-of-ownership will be important drivers of adoption in this market.

During 2019 we also pursued a strategy to deposit our *DiamondClad* coatings on retail screen protectors in order to showcase the functionality of our new film, and to ultimately drive demand for new systems. Early in 2020 we introduced DiamondDog™ tempered glass screen protectors, showcased at CES in January. We believe its performance surpasses the best screen protectors on the market today, at a lower cost, providing sapphire-like protection against scratches, abrasion and breakage, several times better than competing products.

Another important milestone achieved in 2019 was placing our first VERTEX evaluation system with a top-tier display cover glass manufacturer. Customer pull from leading cell phone handset manufactures led to the successful evaluation agreement, installation and qualification of this system, which is very busy running demos and initial pre-production designs. Continued customer pull also drove a 2nd evaluation system agreement, which was finalized early in 2020.

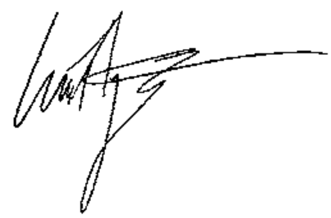
Our newest potential growth market is advanced semiconductor packaging. In 2019 we announced the launch and initial evaluation agreement for our MATRIX PVD platform, and, late in the year, we completed the build, test and installation of the first system for fan-out panel-level semiconductor packaging with a leading OSAT. We are encouraged by our progress and believe this market could become a meaningful future growth driver for the company.

SUMMARY

In 2019, we grew revenue, returned to profitability, generated positive cash flow, and made important progress in both business units. We achieved strong growth in orders and backlog in Photonics and achieved critical milestones for our TFE growth initiatives. We are excited about the significant opportunities that lie ahead of us in 2020 and beyond.

I'd like to thank the employees for their hard work, dedication and success as we grow the company, and to our customers and stockholders, I thank you for your ongoing commitment.

Sincerely,



Wendell T. Blonigan
President & CEO

Notice of 2020 Annual Stockholders Meeting and Proxy Statement

Intevac, Inc.

[THIS PAGE INTENTIONALLY LEFT BLANK]

INTEVAC

April 8, 2020

Dear Stockholder:

You are cordially invited to attend the 2020 Virtual Annual Meeting of Stockholders of Intevac, Inc., a Delaware corporation, which will be held on Wednesday, May 13, 2020 at 3:30 p.m., Pacific daylight time, by means of a live webcast. There will be no physical location for stockholders to attend. The accompanying notice of Annual Meeting, proxy statement and form of proxy card are being distributed to you on or about April 8, 2020.

As a precaution regarding the coronavirus or COVID-19, we have decided to hold the Annual Meeting over the web in a virtual meeting format. You will be able to attend and participate in the Annual Meeting online, vote your shares electronically and submit your questions prior to and during the meeting by visiting: **www.meetingcenter.io/264526658**. The password for the meeting is IVAC2020.

Details regarding how to participate in the Annual Meeting and the business to be conducted are described in the accompanying proxy materials. Also included is a copy of our 2019 Annual Report. We encourage you to read this information carefully.

Your vote is important. Whether or not you plan to participate in the Annual Meeting, we hope you will vote as soon as possible. You may vote over the Internet, by telephone or by mailing a proxy card. Voting over the Internet, by telephone or by written proxy will ensure your representation at the Annual Meeting regardless of whether or not you join the live webcast. Please review the instructions on the proxy card regarding each of these voting options.

Thank you for your ongoing support of Intevac.

Sincerely yours,

Wendell Blonigan
President and Chief Executive Officer

[THIS PAGE INTENTIONALLY LEFT BLANK]

INTEVAC, INC.

3560 Bassett Street
Santa Clara, California 95054

NOTICE OF ANNUAL MEETING
FOR 2020 VIRTUAL ANNUAL MEETING OF STOCKHOLDERS

Time and Date: Wednesday, May 13, 2020 at 3:30 p.m., Pacific daylight time

Location: **www.meetingcenter.io/264526658**

As a precaution regarding the coronavirus or COVID-19, we have decided to hold the Annual Meeting over the web in a virtual meeting format. The password for the meeting is IVAC2020.

Items of Business:

(1) To elect eight directors to serve for the ensuing year or until their respective successors are duly elected and qualified.

(2) To approve an amendment to the Intevac 2003 Employee Stock Purchase Plan to increase the number of shares reserved for issuance thereunder by 500,000 shares.

(3) To approve the Intevac 2020 Equity Incentive Plan and the reservation of shares thereunder;

(4) To ratify the appointment of BPM LLP as Intevac's independent public accountants for the fiscal year ending January 2, 2021.

(5) To approve, on a non-binding, advisory basis, compensation paid to Intevac's Named Executive Officers ("NEOs").

(6) To transact such other business as may properly come before the Annual Meeting or any postponement, adjournment or other delay thereof.

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

Adjournments and Postponements: Any action on the items of business described above may be considered at the Annual Meeting at the time and on the date specified above or at any time and date to which the Annual Meeting may be properly adjourned or postponed.

Record Date: You are entitled to vote if you were a stockholder of record as of the close of business on March 24, 2020.

Voting: **Your vote is very important. Whether or not you plan to attend the Annual Meeting, we encourage you to read the proxy statement and submit your proxy card or vote on the Internet or by telephone as soon as possible. For specific instructions on how to vote your shares, please refer to the section entitled "Questions and Answers About Procedural Matters" and the instructions on the enclosed proxy card.**

All stockholders are cordially invited to participate in the Annual Meeting.

By Order of the Board of Directors,

JAMES MONIZ
Executive Vice President, Finance and Administration, Chief Financial Officer and Treasurer

This notice of Annual Meeting, proxy statement and accompanying form of proxy card are first being distributed on or about April 8, 2020.

[THIS PAGE INTENTIONALLY LEFT BLANK]

TABLE OF CONTENTS

[THIS PAGE INTENTIONALLY LEFT BLANK]

INTEVAC, INC.

3560 Bassett Street
Santa Clara, California 95054

PROXY STATEMENT
FOR 2020 VIRTUAL ANNUAL MEETING OF STOCKHOLDERS

QUESTIONS AND ANSWERS ABOUT PROCEDURAL MATTERS

Annual Meeting

Q: Why am I receiving these proxy materials?

A: The Board of Directors (the "Board") of Intevac, Inc. ("we," "us," "Intevac" or the "Company") is providing these proxy materials to you in connection with the solicitation by the Board of proxies for use at the 2020 Virtual Annual Meeting of Stockholders (the "Annual Meeting") to be held on Wednesday, May 13, 2020 at 3:30 p.m., Pacific daylight time, or at any adjournment or postponement thereof for the purpose of considering and acting upon the matters set forth herein. The notice of Annual Meeting, this proxy statement and accompanying form of proxy card are being distributed to you on or about April 8, 2020.

Q: Where is the Annual Meeting?

A: As a precaution regarding the coronavirus or COVID-19, we have decided to hold the Annual Meeting over the web in a virtual meeting format. There is no physical location for the Annual Meeting.

You will be able to attend and participate in the Annual Meeting online, vote your shares electronically and submit your questions prior to and during the meeting by visiting **www.meetingcenter.io/264526658**. You will need the control number which appears on your proxy card. The password for the meeting is IVAC2020.

Q: Can I attend the Annual Meeting?

A: You are invited to attend the Annual Meeting if you were a stockholder of record or a beneficial owner as of March 24, 2020. You should bring photo identification for entrance to the Annual Meeting and proof of your holdings. The meeting will begin promptly at 3:30 p.m., Pacific daylight time.

Q: How can I attend the Annual Meeting?

A The Annual Meeting will be a completely virtual meeting of stockholders, which will be conducted exclusively by webcast. You are entitled to participate in the Annual Meeting only if you were a stockholder of record as of the close of business on the Record Date, or if you hold a valid proxy for the Annual Meeting. No physical meeting will be held.

You will be able to attend the Annual Meeting online and submit your questions during the meeting by visiting **www.meetingcenter.io/264526658**. You also will be able to vote your shares online by attending the Annual Meeting by webcast.

To participate in the Annual Meeting, you will need to review the information included on your proxy card or on the instructions that accompanied your proxy materials. The password for the meeting is IVAC2020.

If you hold your shares through an intermediary, such as a bank or broker, you must register in advance using the instructions below.

The online meeting will begin promptly at 3:30 p.m., Pacific daylight time. We encourage you to access the meeting prior to the start time leaving ample time for check in procedures. Please follow the registration instructions as outlined in this proxy statement.

Q: How do I register to attend the Annual Meeting virtually on the Internet?

A If you are a registered holder, a 15-digit secure control number that will allow you to attend the Annual Meeting electronically can be found on your proxy card.

If you hold your shares in the name of a broker, bank or other holder of record, you may either: (i) vote in advance of the Annual Meeting by contacting your broker and attend the virtual meeting as a guest; or (ii) register to attend the virtual meeting as a stockholder in advance (allowing you to both vote and ask questions during the meeting). To register to attend the Annual Meeting online, you must submit proof of your proxy power (legal proxy) reflecting your holdings in the Company along with your name and email address to Computershare. Requests for registration must be labeled as "Legal Proxy" and be received no later than 5:00 p.m., Eastern daylight time, on May 12, 2020. You will receive a confirmation of your registration by email after Computershare receives your registration materials. Requests for registration should be directed to Computershare at the following:

By email: Forward the email from your broker, or attach an image of your legal proxy, to legalproxy@computershare.com.

By mail: Computershare, Intevac, Inc. Legal Proxy, P.O. Box 43001, Providence, RI 02940-3001.

Stock Ownership

Q: What is the difference between holding shares as a stockholder of record and as a beneficial owner?

A: *Stockholders of record* – If your shares are registered directly in your name with Intevac's transfer agent, Computershare Trust Company, N.A., you are considered, with respect to those shares, the "stockholder of record." These proxy materials have been sent directly to you by Intevac, and we will have a list of all such stockholders accessible on the virtual meeting website during the meeting.

Beneficial owners – Many Intevac stockholders hold their shares through a broker, trustee or other nominee, rather than directly in their own name. If your shares are held in a brokerage account or by a bank or another nominee, you are considered the "beneficial owner" of shares held in "street name." In this case the proxy materials will have been forwarded to you by your broker, trustee or nominee, who is considered, with respect to those shares, the stockholder of record.

As the beneficial owner, you have the right to direct your broker, trustee or other nominee on how to vote your shares, and if you do not do so then most of the proposals will not receive the benefit of your vote. For directions on how to vote shares beneficially held in street name, please refer to the voting instruction card provided by your broker, trustee or nominee. Since a beneficial owner is not the stockholder of record, you may not vote these shares in person at the Annual Meeting unless you obtain a "legal proxy" from the broker, trustee or nominee that holds your shares, giving you the right to vote those shares at the Annual Meeting in accordance with the instructions set forth above.

Quorum and Voting

Q: How many shares must be present in person (virtually) or represented by proxy to conduct business at the Annual Meeting?

A: The presence of the holders of a majority of the shares of Intevac's common stock, par value $0.001 per share (the "Common Stock") entitled to vote at the Annual Meeting is necessary to constitute a quorum at the Annual Meeting. Such stockholders are counted as present at the meeting if they (1) are present in person (virtually) at the Annual Meeting or (2) have properly submitted a proxy.

Under the General Corporation Law of the State of Delaware, abstentions and broker "non-votes" are counted as present and entitled to vote and are, therefore, included for purposes of determining whether a quorum is present at the Annual Meeting.

A broker non-vote on a proposal occurs when a nominee holding shares for a beneficial owner does not vote on a particular proposal because the nominee does not have discretionary voting power with respect to that item and has not received instructions from the beneficial owner.

Q: Who is entitled to vote at the Annual Meeting?

A: Holders of record of Intevac's Common Stock at the close of business on March 24, 2020 (the "Record Date") are entitled to receive notice of and to vote their shares at the Annual Meeting. Such stockholders are entitled to cast one vote for each share of Common Stock held as of the Record Date.

At the Record Date, we had 23,489,111 shares of our Common Stock outstanding and entitled to vote at the Annual Meeting, held by 75 stockholders of record. We believe that approximately 3,888 beneficial owners hold shares through brokers, fiduciaries and nominees. No shares of Intevac's preferred stock were outstanding.

Q: What shares may I vote?

A: You may vote all of the Intevac shares owned by you as of the close of business on the Record Date. Each stockholder is entitled to one vote for each share held as of the Record Date on all matters presented at the Annual Meeting. Stockholders are not entitled to cumulate their votes in the election of directors.

Q: How many directors may I vote for?

A: Stockholders may vote for up to eight nominees for director. The Board recommends that you vote "FOR" all eight of the Board's nominees for director.

Q: How can I vote my shares during the Annual Meeting?

A: Shares held in your name as the stockholder of record may be voted over the Internet during the Annual Meeting by visiting **www.meetingcenter.io/264526658** and using your 15-digit control number (included on your proxy card) to access the meeting. The password for the meeting is IVAC2020. Shares held beneficially in street name may be voted over the Internet during the Annual Meeting only if you obtain a legal proxy from the broker, trustee or other nominee that holds your shares giving you the right to vote the shares in accordance with the instructions set forth above. Even if you plan to participate in the Annual Meeting, we recommend that you also submit your proxy card or voting instructions as described below, so that your vote will be counted if you later decide not to join the virtual meeting.

Q: How can I vote my shares without participating in the Annual Meeting?

A: Whether you hold shares directly as the stockholder of record or beneficially in street name, you may direct how your shares are voted without participating in the Annual Meeting. If you are a stockholder of record, you may vote by submitting a proxy. If you hold shares beneficially in street name, you may vote by submitting voting instructions to your broker, trustee or nominee. For instructions on how to vote, please refer to the instructions below and those included on your proxy card or, for shares held beneficially in street name, the voting instructions provided to you by your broker, trustee or nominee.

By mail – Stockholders of record of Intevac Common Stock may submit proxies by completing, signing and dating their proxy cards and mailing them in the accompanying pre-addressed envelopes. Proxy cards submitted by mail must be received by the time of the meeting in order for your shares to be voted. Intevac stockholders who hold shares beneficially in street name may vote by mail by following the voting instructions provided by their brokers, trustees or nominees and mailing them in the accompanying pre-addressed envelopes.

By Internet – Stockholders of record of Intevac Common Stock with Internet access may submit proxies by following the "Vote by Internet" instructions on their proxy cards until 11:59 p.m., Eastern daylight time, on Tuesday, May 12, 2020. Most Intevac stockholders who hold shares beneficially in street name may vote by accessing the website specified in the voting instructions provided by their brokers, trustees or nominees. Please check the voting instructions for Internet voting availability.

By telephone – Stockholders of record of Intevac Common Stock who live in the United States, Puerto Rico or Canada may submit proxies by following the "Vote by Phone" instructions on their proxy cards until 11:59 p.m., Eastern daylight time, on Tuesday, May 12, 2020. Most Intevac stockholders who hold shares beneficially in street name may vote by phone by calling the number specified in the voting instructions provided by their brokers, trustees or nominees. Please check the voting instructions for telephone voting availability.

Q: What proposals will be voted on at the Annual Meeting?

A: At the Annual Meeting, stockholders will be asked to vote on:

(1) The election of eight directors to serve for the ensuing year or until their respective successors are duly elected and qualified;

(2) An amendment to the Intevac 2003 Employee Stock Purchase Plan to increase the number of shares reserved for issuance thereunder by 500,000 shares;

(3) The approval of the Intevac 2020 Equity Incentive Plan and the reservation of shares thereunder;

(4) The ratification of the appointment of BPM LLP as independent public accountants of Intevac for the fiscal year ending January 2, 2021; and

(5) The approval, on a non-binding, advisory basis, of the compensation paid to Intevac's Named Executive Officers ("NEOs").

Q: What is the voting requirement to approve each of the proposals?

A: Election of Directors (Proposal One): Under our Bylaws and our corporate governance guidelines, each director in an uncontested election will be elected if the number of votes cast "FOR" such director nominee exceeds the number of votes cast "AGAINST" such director nominee. You may vote "FOR," "AGAINST" or "ABSTAIN" on each of the eight nominees for election as director. The Board will nominate for election or reelection only those candidates who agree to tender, promptly following such candidate's election or reelection, an irrevocable resignation effective upon (i) such candidate's failure to receive the required vote for election at the next meeting at which they would stand for election and (ii) acceptance of such resignation by the Board. In an uncontested election, if an incumbent director does not receive more votes cast "FOR" than "AGAINST" his or her election, the Nominating and Governance Committee is then required to make a recommendation to the Board as to whether it should accept such resignation. Thereafter, the Board is required to decide whether to accept such resignation. In contested elections, the required vote would be a plurality of votes cast. Nominees elected as directors of Intevac shall serve for a term of one year or until their respective successors have been duly elected and qualified

Equity Plan Proposals (Proposals Two and Three): Approval of (1) an amendment to Intevac's 2003 Employee Stock Purchase Plan (Proposal Two) and (2) the Intevac 2020 Equity Incentive Plan (Proposal Three) each require the affirmative vote of holders of a majority of the shares of Common Stock present in person or represented by proxy at the meeting and entitled to vote on the proposal. You may vote "FOR," "AGAINST" or "ABSTAIN" for each of these proposals.

Ratification of BPM LLP (Proposal Four): With respect to Proposal Four, stockholder ratification of the selection of BPM LLP as Intevac's independent public accountants is not required by our Bylaws or other applicable legal requirements. However, the Board is submitting the selection of BPM LLP to the stockholders for ratification as a matter of good corporate practice. If the stockholders fail to ratify the selection, the Audit Committee will reconsider whether or not to retain that firm. Even if the selection is ratified, the Audit Committee in its discretion may direct the appointment of a different independent accounting firm at any time during the year, if it determines that such a change would be in the best interests of Intevac and its stockholders. Ratification of the selection of BPM LLP requires the affirmative vote of a majority of the shares of Common Stock present in person or represented by proxy at the meeting and entitled to vote on the proposal. You may vote "FOR," "AGAINST" or "ABSTAIN" on this proposal.

Advisory Vote on Executive Compensation (Proposal Five) – The affirmative vote of a majority of votes cast is required to approve, on a non-binding, advisory basis, the compensation of the NEOs. You may vote "FOR," "AGAINST" or "ABSTAIN" on this proposal. Because your vote is advisory, it will not be binding on us or the Board. However, the Board will review the voting results and take them into consideration when making future decisions regarding executive compensation.

Q: What effect do abstentions and broker non-votes have on the proposals?

A**:** Shares voted "ABSTAIN" and shares not represented at the meeting will have no effect on the election of directors. For each of the other proposals, abstentions have the same effect as "AGAINST" votes.

If you are a beneficial holder and do not provide specific voting instructions to your broker or other nominee, the broker or other nominee that holds your shares will not be able to vote your shares, which will result in "broker non-votes" on proposals other than the ratification of the appointment of BPM LLP as Intevac's independent auditor for Fiscal 2020. Consequently, if you do not submit any voting instructions to your broker or other nominee, your broker or other nominee may exercise its discretion to vote your shares on Proposal Four to ratify the appointment of BPM LLP. Broker non-votes will not be counted in the tabulation of the voting results on any of the proposals.

Q: How does the Board recommend that I vote?

A: The Board unanimously recommends that you vote your shares:

- "FOR" the election of all of the nominees as director listed in Proposal One;
- "FOR" the adoption of the amendment to add an additional 500,000 shares to the Intevac 2003 Employee Stock Purchase Plan;
- "FOR" the approval of the Intevac 2020 Equity Incentive Plan and the reservation of shares thereunder;
- "FOR" the proposal to ratify the selection of BPM LLP as Intevac's independent public accountants for the fiscal year ending January 2, 2021; and
- "FOR" the approval, on a non-binding, advisory basis, of the compensation of Intevac's NEOs.

Q: If I sign a proxy, how will it be voted?

A: All shares entitled to vote and represented by properly executed proxy cards received prior to the applicable deadlines described above (and not revoked) will be voted at the Annual Meeting in accordance with the instructions indicated on those proxy cards. Assuming there is no contested election and if no instructions are indicated on a properly executed proxy card, the shares represented by that proxy card will be voted as recommended by the Board.

Q: What happens if additional matters are presented at the Annual Meeting?

A: If any other matters are properly presented for consideration at the Annual Meeting, including, among other things, consideration of a motion to adjourn the Annual Meeting to another time or place (including, without limitation, for the purpose of soliciting additional proxies), the persons named in the enclosed proxy card and acting thereunder will have discretion to vote on those matters in accordance with their best judgment. Intevac does not currently anticipate that any other matters will be raised at the Annual Meeting.

Q: Can I change or revoke my vote?

A: Subject to any rules and deadlines your broker, trustee or nominee may have, you may change your proxy instructions at any time before your proxy is voted at the Annual Meeting.

If you are a stockholder of record, you may change your vote by (1) filing with Intevac's Secretary, prior to your shares being voted at the Annual Meeting, a written notice of revocation or a duly executed proxy card, in either case dated later than the prior proxy card relating to the same shares, or (2) participating in the Annual Meeting and voting your shares electronically during the meeting. Participating in the Annual Meeting will not cause your previously granted proxy to be revoked unless you specifically make that request. A stockholder of record that has voted on the Internet or by telephone may also change his or her vote by making a timely and valid later Internet or telephone vote.

If you are a beneficial owner of shares held in street name, you may change your vote (1) by submitting new voting instructions to your broker, trustee or other nominee or (2) if you have obtained a legal proxy from the broker, trustee or other nominee that holds your shares giving you the right to vote the shares in accordance with the instructions set forth above, by participating in the Annual Meeting and voting your shares electronically during the meeting.

Any written notice of revocation or subsequent proxy card must be received by Intevac's Secretary prior to the taking of the vote at the Annual Meeting. Such written notice of revocation or subsequent proxy card should be sent so as to be delivered to Intevac's principal executive offices, Attention: Secretary, by May 12, 2020.

Q: Who will bear the cost of soliciting votes for the Annual Meeting?

A: Intevac will bear all expenses of this solicitation, including the cost of preparing and mailing these proxy materials. Intevac may reimburse brokerage firms, custodians, nominees, fiduciaries and other persons representing beneficial owners of Common Stock for their reasonable expenses in forwarding solicitation material to such beneficial owners. Directors, officers and employees of Intevac may also solicit proxies in person or by other means of communication. Such directors, officers and employees will not be additionally compensated but may be reimbursed for reasonable out-of-pocket expenses in connection with such solicitation. Intevac may engage the services of a professional proxy solicitation firm to aid in the solicitation of proxies from certain brokers, bank nominees and other institutional owners. Our costs for such services, if retained, will not be significant.

Q: Where can I find the voting results of the Annual Meeting?

A: We intend to announce preliminary voting results at the Annual Meeting and will publish final results in a Form 8-K within four business days after the Annual Meeting.

Stockholder Proposals and Director Nominations

Q: What is the deadline to propose actions for consideration at next year's Annual Meeting of stockholders or to nominate individuals to serve as directors?

A: You may submit proposals, including director nominations, for consideration at future stockholder meetings.

Requirements for stockholder proposals to be considered for inclusion in Intevac's proxy materials – Stockholders may present proper proposals for inclusion in Intevac's proxy statement and for consideration at the next annual meeting of its stockholders by submitting their proposals in writing to Intevac's Secretary in a timely manner. Assuming a mailing date of April 8, 2020 for this proxy statement, in order to be included in the proxy statement for the 2021 annual meeting of stockholders, stockholder proposals must be received by Intevac's Secretary no later than December 8, 2020, and must otherwise comply with the requirements of Rule 14a-8 of the Securities Exchange Act of 1934, as amended (the "Exchange Act").

Requirements for stockholder proposals to be brought before an annual meeting – In addition, Intevac's Bylaws establish an advance notice procedure for stockholders who wish to present certain matters before an annual meeting of stockholders. In general, nominations for the election of directors may be made by or at the direction of the Board or by any stockholder entitled to vote in the election of directors at the meeting who has delivered written notice to Intevac's Secretary that is received no later than the Notice Deadline (as defined below), which notice must contain specified information concerning the nominees and concerning the stockholder proposing such nominations.

Intevac's Bylaws also provide that the only business that may be conducted at an annual meeting is business that is (1) specified in the notice of meeting given by or at the direction of the Board, (2) properly brought before the meeting by or at the direction of the Board or (3) properly brought before the meeting by a stockholder who has delivered written notice to the Secretary of Intevac that is received no later than the Notice Deadline (as defined below).

The "Notice Deadline" is defined as that date which is 120 days prior to the one-year anniversary of the date on which Intevac first mailed its proxy materials to stockholders for the previous year's annual meeting of stockholders; provided, however, that if no annual meeting was held in the previous year or the date of the annual meeting has been changed by more than thirty (30) days from the date of the prior year's meeting, notice must be received not later than the close of business on the later of 120 days prior to such annual meeting and ten calendar days following the date on which public announcement of the date of the meeting is first made. As a result, assuming a mailing date of April 8, 2020 for this proxy statement, the Notice Deadline for the 2021 annual meeting of stockholders is December 8, 2020.

If a stockholder who has notified Intevac of his, her or its intention to present a proposal at an annual meeting does not appear to present his, her or its proposal at such meeting, Intevac need not present the proposal for a vote at such meeting.

Q: How may I obtain a copy of the bylaw provisions regarding stockholder proposals and director nominations?

A: A copy of the full text of the bylaw provisions discussed above may be obtained by writing to the Secretary of Intevac. All notices of proposals by stockholders, whether or not to be included in Intevac's proxy materials, should be sent to Intevac's principal executive offices, Attention: Secretary.

Additional Information about the Proxy Materials

Q: What should I do if I receive more than one set of proxy materials?

A: You may receive more than one set of proxy materials, including multiple copies of this proxy statement and multiple proxy cards or voting instruction cards. For example, if you hold your shares in more than one brokerage account, you may receive a separate voting instruction card for each brokerage account in which you hold shares. If you are a stockholder of record and your shares are registered in more than one name, you will receive more than one proxy card. Please complete, sign, date and return each Intevac proxy card or voting instruction card that you receive to ensure that all your shares are voted.

Q: How may I obtain a separate set of proxy materials or the 2019 Annual Report?

A: If you share an address with another stockholder, it is possible that each stockholder may not receive a separate copy of the proxy materials and 2019 Annual Report.

Stockholders who do not receive a separate copy of the proxy materials and 2019 Annual Report may request to receive a separate copy of the proxy materials and 2019 Annual Report by calling 408-986-9888 or by writing to Investor Relations at Intevac's principal executive offices. Upon such an oral or written request, we will promptly deliver the requested materials. Alternatively, stockholders who share an address and receive multiple copies of our proxy materials and 2019 Annual Report can request to receive a single copy by following the instructions above, although each stockholder of record or beneficial owner must still submit a separate proxy card.

Q: What is the mailing address for Intevac's principal executive offices?

A: Intevac's principal executive offices are located at 3560 Bassett Street, Santa Clara, California 95054.

Any written requests for additional information, additional copies of the proxy materials and 2019 Annual Report, notices of stockholder proposals, recommendations of candidates to the Board, communications to the Board or any other communications should be sent to this address.

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE STOCKHOLDERS' MEETING TO BE HELD ON MAY 13, 2020.

The proxy statement and the 2019 Annual Report are available at www.intevac.com.

PROPOSAL ONE

ELECTION OF DIRECTORS

At the Annual Meeting, eight directors (constituting the entire board) are to be elected to serve until the next Annual Meeting of Stockholders and until a successor for any such director is elected and qualified, or until the earlier death, resignation or removal of such director.

It is intended that the proxies will be voted for the eight nominees named below unless authority to vote for any such nominee is withheld. The eight nominees are currently directors of Intevac. Except for Mses. Hayes and Klein, who were appointed to the Board on June 7, 2019, each of the nominees was elected to the Board by the stockholders at the last annual meeting. Each person nominated for election has agreed to serve if elected, and the Board has no reason to believe that any nominee will be unavailable or will decline to serve. In the event, however, that any nominee is unable or declines to serve as a director at the time of the Annual Meeting, the proxies will be voted for any other person who is designated by the current Board to fill the vacancy. The proxies solicited by this proxy statement may not be voted for more than eight nominees.

Mses. Hayes and Klein, who are standing for election to the Board, were identified through an internal search initiated in early 2019 by the Board. The process was managed by the Nominating and Governance Committee which included the participation of Messrs. Dury, Barber, Blonigan, Jamison, Popovich, Rohrs and Schaefer, to assist in the identification of new director candidates and to facilitate the process of evaluating those candidates as potential directors. Mses. Hayes and Klein were recommended by Mr. Dury.

Majority Voting Standard

Under Intevac’s Bylaws, in order to be elected, a nominee must receive the votes of a majority of the votes cast with respect to such nominee in uncontested elections (which is the case for the election of directors at the 2020 Annual Meeting), which means the number of votes “for” a nominee must exceed the number of votes “against” that nominee. Abstentions are not counted as votes cast. If an incumbent director receives more “against” than “for” votes, he or she is expected to tender his or her resignation in accordance with our corporate governance guidelines.

In accordance with our Bylaws and our corporate governance guidelines, the Board will nominate for election or reelection only those candidates who agree to tender, promptly following such candidate’s election or reelection, an irrevocable resignation effective upon (i) such candidate’s failure to receive the required vote for election at the next meeting at which they would stand for election and (ii) acceptance of such resignation by the Board. In addition, the Board will fill director vacancies and new directorships only with candidates who agree to tender the same form of resignation promptly following their election to the Board.

If an incumbent director fails to receive the required vote for reelection, then the Nominating and Governance Committee will consider the offer of resignation and recommend to the Board the action to be taken, and the Board will publicly disclose its decision as to whether to accept or reject the offered resignation.

Any director whose resignation is under consideration shall abstain from participating in any decision of the Nominating and Governance Committee or the Board itself regarding that resignation.

Nominees

Set forth below is information regarding the nominees to the Board.

Name of Nominee	Position(s) with Intevac	Age	Director Since	Committees	Other Reporting Company Boards
David S. Dury	Chairman of the Board	71	2002	NGC (Chair)	—
Wendell T. Blonigan	President and Chief Executive Officer	58	2013		—
Kevin D. Barber	Director	59	2018	CC (Chair), AC	—
Dorothy D. Hayes	Director	69	2019	AC (Chair)	—
Stephen A. Jamison	Director	71	2018	CC	—
Michele F. Klein	Director	70	2019	CC, NGC	—
Mark P. Popovich	Director	57	2018	AC, NGC	—
Thomas M. Rohrs	Director	69	2010	AC, CC	2

AC — Audit Committee, CC — Compensation Committee, NGC — Nominating and Governance Committee

The Board of Directors unanimously recommends a vote "FOR" all the nominees listed above.

Business Experience and Qualifications of Nominees for Election as Directors

Each nominee brings a strong and unique background and set of skills to the Board, giving the Board as a whole competence and experience in a wide variety of areas, including corporate governance and board service, executive management, financial management and operations. Set forth below are the conclusions reached by the Board with regard to each of its directors.

As described elsewhere in this proxy under the heading "Policy Regarding Board Nominees", the Company believes that Board members should possess a balance of knowledge, experience and capability, and considers the following issues: the current size and composition of the Board and the needs of the Board and the respective committees of the Board, such factors as issues of character, judgment, diversity, age, expertise, business experience, length of service, independence, other commitments and the like, the relevance of the candidate's skills and experience to the business, and such other factors as the Nominating and Governance Committee may consider appropriate. In addition to fulfilling the above criteria, the Board has determined that 7 of the 8 directors named above are considered independent under applicable Nasdaq rules.

Mr. Dury has served as Chairman of the Board since August 2017 and as a director of Intevac since July 2002 and previously served as the Lead Independent Director from 2007 to 2017. Mr. Dury has served as the Chairman of the Nominating and Governance Committee since February 2018. Mr. Dury has previously served on the Audit Committee both as a member and as the Chairman from 2002 to 2017 and on the Compensation Committee both as a member and as the Chairman from 2013 to 2017. Mr. Dury served as a co-founder of Mentor Capital Group, a venture capital firm from July 2000 until his retirement in May 2009. From 1996 to 2000, Mr. Dury served as Senior Vice President and Chief Financial Officer ("CFO") of Aspect Development, a software development firm. Mr. Dury holds a BA in psychology from Duke University and an MBA from Cornell University. The Board believes Mr. Dury's qualifications to sit on our Board include his executive experience as a partner in a venture capital firm, his experience with financial accounting matters as a previous CFO, as well as his operational, management and corporate governance expertise working on other companies' boards of directors.

Mr. Blonigan joined Intevac in July 2013 as President and Chief Executive Officer ("CEO") and has served as a director of Intevac since August 2013. Prior to joining Intevac, Mr. Blonigan co-founded Orbotech LT Solar in 2009 and served as the company's CEO until 2013. From 2006 until 2009, he was the Chief Operating Officer at Photon Dynamics, an electronics company. In 1991, Mr. Blonigan joined Applied Materials' AKT display subsidiary. During his tenure at AKT, he held various positions. In 2003, he was appointed President and served in this role until 2006; from 1999 through 2003 he was Vice President, and prior to that time he was Director of Engineering and New Product Development. Mr. Blonigan holds a BS in electronic engineering technology from DeVry University Missouri Institute of Technology. The Board believes Mr. Blonigan's qualifications to sit on our Board include his years of executive experience for a large multinational company in the high technology display and solar industries, including as our CEO, his strong leadership abilities, management skills and technical expertise.

Mr. Barber was appointed as a director of Intevac in February 2018. Mr. Barber currently serves as the Chairman of the Compensation Committee and as member of the Audit Committee and previously served as a member of the Compensation Committee through February 2019. Mr. Barber currently serves as the CEO and Director of Thin Film Electronics ASA, a publicly traded Norwegian company and a manufacturer of printed electronic products and systems. Prior to joining Thin Film Electronics, Mr. Barber served from 2011 until 2018 as the Senior Vice President and General Manager of the Mobile Division of Synaptics, a provider of interface technologies. From 2008 until 2010, Mr. Barber served as CEO and president of ACCO Semiconductor, Inc., a fabless semiconductor company serving the mobile communications market. From 2006 to 2008, Mr. Barber served as a consultant for PRTM Management Consultants Inc. From 2003 until 2006, Mr. Barber served in various roles at Skyworks Solutions, a provider of analog semiconductors, including senior vice president and general manager, mobile platforms, and earlier, RF solutions, and senior vice president, operations. From 1997 to 2002, Mr. Barber served as senior vice president of operations for Conexant Systems. Mr. Barber holds a Bachelor of Science degree in Electrical Engineering from San Diego State University and a Master's degree in Business Administration from Pepperdine University. The Board believes Mr. Barber's qualifications to sit on our Board include his experience as a CEO of a printed electronics company, his years of operational and management experience in the mobile display and handset, tablet, and semiconductor device industries.

Ms. Hayes was appointed as a director of Intevac in June 2019. Ms. Hayes currently serves as the Chairman of the Audit Committee. Ms. Hayes served from 2003 until her retirement in 2008 as Corporate Controller and Chief Accounting Officer and later as Chief Audit Executive at Intuit, a business and financial software company. From 1999 until 2003, Ms. Hayes served as Vice President, Corporate Controller and Chief Accounting Officer of Agilent Technologies, a public research, development and manufacturing company. From 1989 until 1999, Ms. Hayes served as Assistant Corporate Controller, financial executive of the Measurement Systems Organization and Chief Audit Executive of Hewlett Packard, a multinational information technology company. From 1980 until 1989, Ms. Hayes served in various management functions including Vice President, Corporate Controller of Apollo Computer, a computer hardware and software company. Ms. Hayes currently serves as nonexecutive Chairman of the Board of Directors at First Tech Federal Credit Union, a cooperative financial institution. She previously chaired the Audit Committee of the Vantagepoint Funds, a captive mutual fund series of ICMA Retirement Corporation, and the Audit Committee for Range Fuels, a privately-held biofuels company. Ms. Hayes currently serves as a board member or trustee of various non-profit and philanthropic organizations including: Encore.org, Center for Excellence in Nonprofits and the Computer History Museum. Ms. Hayes holds an MS in Finance from Bentley University, and received both a MS in Business Administration and a BA in Elementary Education from the University of Massachusetts, Amherst. The Board believes Ms. Hayes's qualifications to sit on our Board include her expertise in internal audit and controllership with large global technology companies and corporate governance expertise working on other companies' boards of directors.

Dr. Jamison was appointed as a director of Intevac in August 2018. Dr. Jamison currently serves as a member of the Compensation Committee. From 2011 until 2018, Dr. Jamison served as a senior program consultant for night vision technology at Fibertek, a developer of laser and electro-optics, assigned to U.S. Army Night Vision Lab (NVESD). From 2009 until 2011, Dr. Jamison served as a technology fellow with Rand Corporation also at NVESD. From 2001 until 2008, Dr. Jamison served as a vice president and general manager of BAE Systems, a defense contractor. Prior posts include vice president of engineering and vice president of operations at Lockheed Martin, a defense and aeronautics company, Director and Chief Engineer at Loral, a defense electronics company, and Manager and Section Head at Honeywell, a defense contractor. Dr. Jamison holds a PhD in physics from Brown University. The Board believes Dr. Jamison's qualifications to sit on our Board include his years of operational and management experience in the defense electronics industry.

Ms. Klein was appointed as a director of Intevac in June 2019. Ms. Klein currently serves as a member of the Compensation Committee and the Nominating and Governance Committee. Ms. Klein currently serves as the CEO of Jasper Ridge Inc., a privately-held company developing technology to improve vision. She is a co-founder and Director of Gridtential Energy, a privately-held energy storage company. From 2005 until 2010 Ms. Klein served as Senior Director of Applied Ventures LLC, the venture capital arm of Applied Materials, where she recommended and managed investments in energy storage and solar energy, and represented Applied Materials on the boards of seven technology companies. Ms. Klein co-founded Boxer Cross Inc., a semiconductor equipment manufacturer, and served as CEO and Director from 1997 until its acquisition by Applied Materials in 2003. She previously co-founded and led High Yield Technology Inc., a semiconductor metrology company, from 1986 until its acquisition by Pacific Scientific in 1996. She serves as a Director of Photon Control, a publicly traded Canadian company and a provider of optical sensors and systems to the semiconductor equipment industry, where she chairs the M&A committee and is a member of the Audit Committee. Ms. Klein earned an MBA from the Stanford Graduate School of Business and a BS from the University of Illinois. The Board believes Ms. Klein's qualifications to sit on our Board include her experience as a CEO of a semiconductor equipment manufacturing company, her years of operational, management and corporate governance expertise working on other companies' boards of directors in the semiconductor equipment and solar energy industries.

Mr. Popovich was appointed as a director of Intevac in February 2018. Mr. Popovich has served as a member of the Nominating and Governance Committee since his appointment to the Board in 2018 and on the Audit Committee since March 2019. Mr. Popovich currently serves as the CEO of 3D Glass Solutions, a privately-held company producing glass-based system-on-chip and system-in-package. Prior to 3D Glass, in 2017, Mr. Popovich was Chief Strategy Officer of Semblant, Inc., a start-up specializing in waterproof nano-coatings for consumer electronics products. From 2013 until 2017, Mr. Popovich held corporate vice president positions at Henkel Corporation, a multi-national chemical and consumer goods company. From 2002 until 2013, Mr. Popovich served as general manager, vice president at Amkor Technology, an outsourced provider in the semiconductor assembly and packaging industry. From 1996 until 2002, Mr. Popovich served as a director at ChipPAC Inc, a semiconductor company. From 2015 to 2017 Mr. Popovich served on the Boards of Directors of Vitriflex Inc., a private company and Dropwise Technology Corporation, a private company. Mr. Popovich holds a Bachelor of Science degree in Ceramic Science & Engineering from Pennsylvania State University. The Board believes Mr. Popovich's qualifications to sit on our Board include his years of operational and management experience in the semiconductor advance packaging industry.

Mr. Rohrs has served as a director of Intevac since October 2010. Mr. Rohrs has served as a member of both the Audit Committee and the Compensation Committee since 2010. Mr. Rohrs has held executive positions at leading Silicon Valley technology companies. Mr. Rohrs currently serves as the Executive Chairman and Director and was CEO from 2014 to January 2020 of Ichor Systems, a publicly traded U.S. company and a turnkey manufacturer of fluid delivery systems for the semiconductor industry. Mr. Rohrs was the CEO of Skyline Solar, a consumer solar electricity company, from 2010 through 2013, the CEO of Electroglas, a semiconductor equipment company, from 2006 through 2009, Senior Vice President of Global Operations for Applied Materials, a semiconductor, solar and display equipment company, from 1997 through 2002 and Vice President of Worldwide Operations for Silicon Graphics, a manufacturer of computer hardware and software, from 1992 through 1997. Mr. Rohrs currently serves as Executive Chairman of Ichor Systems and as a member of the Board of Directors of Advanced Energy and was a director of Magma Design Automation from 2003 to 2012. He received a BS in mechanical engineering from the University of Notre Dame and an MBA from Harvard Business School. The Board believes Mr. Rohrs' qualifications to sit on our Board include his experience as a CEO of a semiconductor equipment manufacturing company, his operational, management and corporate governance expertise working on other companies' boards of directors and his years of experience in the semiconductor, solar photovoltaic and electronics industries.

PROPOSAL TWO

APPROVAL OF AN AMENDMENT TO THE INTEVAC 2003 EMPLOYEE STOCK PURCHASE PLAN TO INCREASE THE NUMBER OF SHARES RESERVED THEREUNDER BY 500,000 SHARES

The Intevac 2003 Employee Stock Purchase Plan (the "2003 ESPP") was originally adopted by our Board and approved by our stockholders in 2003, and was last approved by our stockholders in 2019. Employees have participated in the 2003 ESPP or its predecessor plan, the 1995 Employee Stock Purchase Plan, since 1995. We are asking our stockholders to approve an amendment to the 2003 ESPP to increase the number of shares of our Common Stock that may be issued under the 2003 ESPP by 500,000 shares. We expect that this increase to the number of shares available for issuance under the 2003 ESPP to be sufficient to meet the plan's needs for at least another year.

The 2003 ESPP provides us an important incentive tool for our employees and helps us to attract, retain and motivate our employees whose skills and performance are critical to our success. We strongly believe that the 2003 ESPP is essential for us to compete for talent in the labor markets in which we operate and our Board has determined that it is in our best interests and the best interests of our stockholders to make an additional 500,000 shares of our Common Stock available for purchase under the 2003 ESPP. As such, the Board has put forth for approval of our stockholders an amendment to the 2003 ESPP to increase the number of shares reserved thereunder by 500,000 shares of our Common Stock. In addition, the amended ESPP also increases the percentage of eligible compensation that may be deducted each pay period for offering periods beginning on or after August 1, 2020. If our stockholders approve this Proposal Two, the aggregate number of shares available for issuance under the 2003 ESPP since its inception will be 5,558,000, and the total number of shares of Common Stock that remain available to be issued in the future under such plan will be approximately 866,000 shares. The requested increase represents approximately 2.1% of the outstanding shares of our Common Stock as of March 31, 2020, and the total number of shares available for issuance under the 2003 ESPP would be approximately 3.7% of the outstanding shares of our Common Stock as of March 31, 2020.

The Board of Directors unanimously recommends a vote "FOR" the amendment to the 2003 Employee Stock Purchase Plan to increase the number of shares of Common Stock reserved for issuance thereunder by 500,000 shares.

Summary of the 2003 Employee Stock Purchase Plan

The following paragraphs provide a summary of the principal features of the 2003 ESPP and its operation. The following summary is qualified in its entirety by reference to the 2003 ESPP as set forth in Appendix A.

General

The 2003 ESPP was originally adopted by our Board in January 2003 and approved by our stockholders in May 2003. The purpose of the 2003 ESPP is to provide employees with an opportunity to purchase our Common Stock through payroll deductions.

Administration

Our Board or a committee appointed by the Board administers the 2003 ESPP. All questions of construction, interpretation or application of the 2003 ESPP are determined by the Board or the committee, and its decisions are final, conclusive and binding upon all participants.

Eligibility

Each of our employees, or the employees of our designated subsidiaries, whose customary employment is for at least twenty (20) hours per week and more than five (5) months per calendar year is eligible to participate in the 2003 ESPP; except that no employee may be granted a purchase right under the 2003 ESPP (i) to the extent that, immediately after the grant, such employee (or any person whose stock would be attributable to such employee) would own our stock or the stock of our parent corporation or any of our subsidiaries and/or hold outstanding options to purchase stock possessing 5% or more of the total voting power or total value of all classes of our stock or our parent corporation or any of our subsidiaries, or (ii) to the extent that his or her rights to purchase stock under all of our employee stock purchase plans or those of our parent corporation or any of our subsidiaries accrues at a rate which exceeds $25,000 worth of stock (determined at the fair market value of the shares at the time such purchase right is granted) for each calendar year in which such purchase right is outstanding. As of March 31, 2020, approximately 238 employees were eligible to participate in the 2003 ESPP. Eligible employees have the opportunity to elect to participate in the 2003 ESPP approximately twice per year.

Offering Period

Shares of our Common Stock are offered for purchase under the 2003 ESPP through a series of successive offering periods, each with a maximum duration of approximately twenty-four (24) months, with each new offering period starting on a date determined by the plan administrator. The plan administrator has the authority to change the duration of the offering periods, including the commencement dates thereof, with respect to future offerings without stockholder approval if such change is announced prior to the start of the first offering period affected, except with respect to automatic transfers to lower price offering periods, as described below. Each offering period is comprised of a series of one or more successive purchase intervals. Purchase intervals within each offering period last approximately six (6) months and run from the first trading day in February to the last trading day in July each year and from the first trading day in August each year to the last trading day in January of the following year. Should the fair market value of our Common Stock on any semi-annual purchase date within an offering period be less than the fair market value per share on the start date of that offering period, then that offering period automatically terminates immediately after the purchase of shares on such purchase date, and such participants are automatically re-enrolled in a new offering period that commences on the next trading day following the purchase date. The plan administrator may shorten the duration of such new offering period within five (5) business days following the start date of such new offering period.

Purchase Price

The purchase price of our Common Stock acquired under the 2003 ESPP is equal to 85% of the lower of (i) the fair market value per share of our Common Stock on the first day of the offering period or, if different, on the participant's entry date into the offering period or (ii) the fair market value on the semi-annual purchase date. The fair market value of our Common Stock on any relevant date will be the closing sales price per share as reported on the Nasdaq National Market (or the closing bid, if no sales were reported), or the mean of the closing bid and asked prices if our Common Stock is regularly quoted by a recognized securities dealer but selling prices are not reported, as quoted on such exchange or reported in the Wall Street Journal or such other source as the plan administrator deems reliable.

Payment of Purchase Price; Payroll Deductions

Each participant's purchase price of the shares is accumulated by payroll deductions throughout each purchase interval. For offering periods beginning on or after February 1, 2012 but before August 1, 2020, a participant may elect to have up to 15% of his or her eligible compensation deducted each payroll period. For offering periods beginning on or after August 1, 2020, a participant may elect to have up to 50% of his or her eligible compensation deducted each payroll period. The number of shares of our Common Stock a participant may purchase in each purchase interval during an offering period is determined by dividing the total amount of payroll deductions withheld from the participant's compensation during that purchase interval by the purchase price; provided, however, that a participant may not purchase more than 2,500 shares each purchase interval.

Withdrawal

Generally, a participant may withdraw from an offering period at any time by written notice or following an electronic or other withdrawal procedure without affecting his or her eligibility to participate in future offering periods. However, once a participant withdraws from a particular offering period, that participant may not participate again unless he or she re-enters the 2003 ESPP at an entry date or semi-annual entry date in accordance with the terms of the 2003 ESPP. To participate again in the 2003 ESPP, the participant must deliver to us a new subscription agreement in accordance with the terms of the 2003 ESPP. Once a participant withdraws from the 2003 ESPP, the payroll deductions credited to the participant's account, but not used to make a purchase will be returned to him or her as provided pursuant to the 2003 ESPP.

Termination of Employment

Upon termination of a participant's employment for any reason, including disability or death, his or her participation in the 2003 ESPP will immediately cease. The payroll deductions credited to the participant's account, but not used to make a purchase will be returned to him or her or, in the case of death, to the person or persons entitled thereto as provided pursuant to the 2003 ESPP.

Adjustments; Merger or Change in Control

In the event of any dividend or other distribution (whether in the form of cash, shares, other securities, or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase or exchange of Common Stock or other securities of the Company or other change in our capital structure, such that an adjustment is determined by the plan administrator (in its sole discretion) to be appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the 2003 ESPP, adjustments will be made, in the manner the plan administrator deems equitable, in the number and class of shares available for purchase under the 2003 ESPP (including per person purchase interval limitations) and the purchase price and number of shares covered by each purchase right under the 2003 ESPP.

In the event of the Company's proposed dissolution or liquidation, the offering period then in progress shall be shortened by setting a new purchase date before the dissolution or liquidation, and such offering period shall terminate immediately prior to the consummation of such proposed liquidation or dissolution, unless provided otherwise by the Board. The Board shall notify each participant of the new purchase date at least ten (10) business days prior to such date, and the participant's purchase right shall be exercised on such new purchase date, unless the participant withdraws prior to such date. In the event of any merger of the Company with or into another corporation or "change of control," as defined in the 2003 ESPP, the successor corporation or a parent or subsidiary of such successor corporation shall assume or substitute an equivalent purchase right for each outstanding purchase right. In the event the successor corporation refuses to do so, the purchase interval then in progress shall be shortened by setting a new purchase date before the merger or change of control, and the current purchase interval and offering period shall end on the new purchase date. The plan administrator shall notify each participant of the new purchase date at least ten (10) business days prior to such date, and the participant's purchase right shall be exercised on such new purchase date, unless the participant withdraws prior to such date.

Federal Income Tax Aspects

The following brief summary of the effect of U.S. federal income taxation upon the participant and Intevac with respect to the shares purchased under the 2003 ESPP does not purport to be complete, and does not discuss the tax consequences of a participant's death or the income tax laws of any state or non-U.S. country in which the participant may reside.

The 2003 ESPP, and the right of participants to make purchases thereunder, is intended to qualify under the provisions of Section 423 of the Internal Revenue Code. Under these provisions, no income will be taxable to a participant until the shares purchased under the 2003 ESPP are sold or otherwise disposed of. Upon the sale or other disposition of the shares, the participant will generally be subject to tax in an amount that depends upon the holding period. If the shares are sold or otherwise disposed of more than (i) two (2) years from the first day of the applicable offering period (or, if later, from the first day the participant entered the offering period) and (ii) one (1) year from the applicable date of purchase, the participant will recognize ordinary income measured as the lesser of (a) the excess of the fair market value of the shares at the time of such sale or disposition over the purchase price, or (b) an amount equal to 15% of the fair market value of the shares as of the first day the participant entered the applicable offering period. Any additional gain will be treated as long-term capital gain. If the shares are sold or otherwise disposed of before the expiration of these holding periods, the participant will recognize ordinary income generally measured as the excess of the fair market value of the shares on the date the shares were purchased over the purchase price. Any additional gain or loss on such sale or disposition will be long-term or short-term capital gain or loss, depending on how long the shares have been held from the date of purchase. In addition, a participant's annual "net investment income", as defined in Section 1411 of the Internal Revenue Code, may be subject to a 3.8% federal surtax. Net investment income may include capital gain and/or loss arising from the disposition of shares purchased under the 2003 ESPP. Whether a participant's net investment income will be subject to this surtax will depend on the participant's level of annual income and other factors.

Intevac generally is not entitled to a deduction for amounts taxed as ordinary income or capital gain to a participant, except to the extent of ordinary income recognized by participants upon a sale or disposition of shares prior to the expiration of the holding periods described above.

Amendment and Termination of the 2003 ESPP

The 2003 ESPP will continue in effect until terminated in accordance with the terms of the 2003 ESPP. Our Board or the committee administering the 2003 ESPP may at any time terminate or amend the 2003 ESPP. The termination of the 2003 ESPP cannot affect purchase rights previously granted under the plan except as provided by the 2003 ESPP, provided that an offering period may be terminated by the plan administrator on any purchase date if the plan administrator determines that the termination of the 2003 ESPP is in the best interests of the Company and its stockholders. To the extent necessary to comply with Section 423 of the Internal Revenue Code or other applicable law or stock exchange rule, the Company will obtain stockholder approval of an amendment or termination in a manner and to the degree required. Without stockholder approval, and without regard to whether any participant rights may be considered to have been adversely affected, the plan administrator is entitled to change the offering periods, limit the frequency and/or number of changes in the amount withheld during an offering period, establish the exchange ratio applicable to the amounts withheld in a currency other than U.S. dollars, permit payroll withholding in excess of the amount designated by a participant in order to adjust for delays or mistakes in the Company's processing of properly completed withholding elections, establish reasonable waiting and adjustment periods and/or accounting and crediting procedures to ensure that amounts applied toward the purchase of Common Stock for each participant properly correspond with amounts withheld from the participant's compensation, and establish such other limitations or procedures as the plan administrator determines in its sole discretion advisable which are consistent with the 2003 ESPP. In addition, in the event the plan administrator determines the ongoing operation of the 2003 ESPP may result in unfavorable financial accounting consequences, the Board may, in its discretion, modify or amend the 2003 ESPP to reduce or eliminate such accounting consequences.

2003 ESPP Transactions for Certain Individuals and Groups

Given that the number of shares that may be purchased under the 2003 ESPP is determined, in part, by our Common Stock's value on the enrollment date of each participant and the last day of the purchase interval and given that participation in the 2003 ESPP is voluntary on the part of employees, the actual number of shares that may be purchased by an individual under the 2003 ESPP is not determinable.

The table below shows, as to each of Intevac's NEOs included in the 2019 Summary Compensation Table and the various indicated groups, the number of shares of Common Stock purchased under the 2003 ESPP during the last fiscal year, together with the weighted average purchase price paid per share.

Name and Position or Group	Number of Purchased Shares	Weighted Average Purchase Price
Wendell Blonigan, President and Chief Executive Officer	—	N/A
James Moniz, Executive Vice President and Chief Financial Officer	5,000	$3.95
Jay Cho, Executive Vice President and General Manager, Thin Film Equipment	4,492	$3.95
Timothy Justyn, Executive Vice President and General Manager, Photonics	5,000	$3.95
Non-employee directors, as a group	—	N/A
All executive officers, as a group	14,492	$3.95
All employees who are not executive officers, as a group	355,475	$3.96

Required Vote

The affirmative vote of the holders of a majority of the shares presented in person or represented by proxy at the Annual Meeting and entitled to vote on the proposal (provided that such vote also constitutes the affirmative vote of a majority of the required quorum) will be required for approval of the amendment to add an additional 500,000 shares of Common Stock to the 2003 ESPP.

Summary

We believe strongly that approval of the amendment to the 2003 ESPP is essential to our continued success and ability to compete for talent in the labor markets in which we operate. Our employees are one of our most valuable assets. Awards such as those provided under the 2003 ESPP constitute an important incentive for our employees and help us to attract, retain and motivate people whose skills and performance are critical to our success.

PROPOSAL THREE

APPROVAL OF THE INTEVAC 2020 EQUITY INCENTIVE PLAN

Our stockholders are being asked to approve a new 2020 Equity Incentive Plan (the "Plan"). Our current equity plan, the 2012 Equity Incentive Plan (the "2012 Plan"), currently is set to expire in 2022. The Board has adopted the Plan, subject to approval from our stockholders at the 2020 Annual Meeting of Stockholders. If our stockholders approve the Plan, it will immediately replace the 2012 Plan, and the 2012 Plan will terminate immediately, and no further awards will be made under the 2012 Plan, but the 2012 Plan will continue to govern awards previously granted under it. If our stockholders do not approve the Plan, the 2012 Plan will remain in effect through the remainders of its term. The Board has determined that it is in the best interests of the Company to adopt the Plan and is asking our stockholders to approve the Plan. The Company's named executive officers, directors and director nominees have an interest in this proposal as they are eligible to receive equity awards under the Plan. The adoption of the Plan is not required or intended to cover awards previously made under the Plan. As such, no new plan benefits have been granted to date, and future awards under the Plan are not yet determinable.

Proposal

We have historically provided stock options, restricted stock units and other types of equity awards as an incentive to our employees, directors and consultants to promote increased stockholder value. The Board of Directors and management believe that stock options, restricted stock units and other types of equity awards are one of the primary ways to attract and retain key personnel responsible for the continued development and growth of our business, and to motivate all employees to increase stockholder value. In addition, stock options, restricted stock units and other types of equity awards are considered a competitive necessity in the high technology sector in which we compete.

The Board believes that the Company must offer a competitive equity incentive program if it is to continue to successfully attract and retain the best possible candidates for positions of substantial responsibility within the Company. The Board expects that the Plan will be an important factor in attracting, retaining and rewarding high caliber employees who are essential to our success and in providing incentive to these individuals to promote the success of the Company.

The Board of Directors unanimously recommends that stockholders vote "FOR" the adoption of the 2020 Equity Incentive Plan.

Key Features of the 2020 Equity Incentive Plan:

- Proposed authorization of 1,000,000 shares of our Common Stock under the Plan, plus (i) 1,700,000 shares, which represents the approximate number of shares that, as of the date of the initial Board action to adopt the Plan, have been reserved but not issued pursuant to any awards granted under the 2012 Plan and are not subject to any awards granted thereunder, plus (ii) any shares subject to stock options, restricted stock units or other awards granted under the 2012 Plan and/or our 2004 Equity Incentive Plan (the "2004 Plan") that, on or after the date our stockholders initially approve the Plan, expire or otherwise terminate without having been exercised or issued in full or are forfeited to or repurchased by the Company due to failure to vest, with the maximum number of shares that may be added to the Plan pursuant to clause (ii) equal to 2,649,965 shares.
- The Plan permits the award of options, stock appreciation rights, restricted stock, restricted stock units, performance units and performance shares.
- A committee of independent directors administers the Plan.
- The Plan prohibits us from instituting a program to reduce the exercise price of outstanding awards or surrender or cancel outstanding awards for new awards and/or cash.
- Dividends or other distributions payable with respect to shares subject to awards will not be paid before and unless the underlying shares vest and no dividends or other distributions will be paid with respect to shares that are subject to unexercised stock options or stock appreciation rights.
- Non-employee members of the Board of Directors may not be granted, in any fiscal year, awards in excess of limits contained in the Plan.
- The 2020 Plan is substantively similar to the 2012 Plan in most respects, but there are some material differences between the Plan and the 2012 Plan, including: the elimination in the Plan of our ability to grant cash performance-based bonus

awards under the Plan; the removal of per-person share limits in light of recent amendments to Section 162(m) of the Code (although the Plan continues to include limits with respect to non-employee members of the Board of Directors); unlike the 2012 Plan, the Plan explicitly includes the ability to provide for an extension of an option's post-service exercise period upon certain cessations of service if the exercise of the option following such cessation of service would result in certain types of liability or would violate securities laws; and the Plan includes a modification to the change in control provisions such that outstanding awards granted to non-employee members of our Board will fully vest in the event of our change in control.

Considerations of the Board of Directors in Making its Recommendation

Upon the recommendation of the Compensation Committee, the Board of Directors approved the Plan and the number of shares of our Common Stock reserved under the Plan. The number of shares reserved under the Plan is proposed in order to give the Board and the Compensation Committee of the Board continued flexibility to grant stock options, restricted stock units and other types of equity awards.

The Board and management believe that granting equity awards motivates higher levels of performance, aligns the interests of employees and stockholders by giving employees the perspective of owners with equity stakes in Intevac, and provides an effective means of recognizing employee contributions to our success. The Board and management also believe that equity awards are of great value in recruiting and retaining highly qualified technical and other key personnel who are in great demand, as well as rewarding and encouraging current employees and other service providers. Finally, the Board and management believe that the ability to grant equity awards will be important to our future success by helping us to accomplish these objectives.

If our stockholders approve the Plan, we currently anticipate that the shares available under the Plan will be sufficient to meet our expected needs through at least the first fiscal quarter of 2022, inclusive of the annual equity awards typically granted in the second quarter of each fiscal year. We anticipate that we will be requesting additional shares under the Plan at our 2022 Annual Meeting of Stockholders. However, future circumstances and business needs may dictate a different result. In determining the number of shares to be reserved for issuance under the Plan, the Compensation Committee and the Board also considered the following:

- *Remaining Competitive by Attracting/Retaining Talent*. As discussed above, the Compensation Committee and the Board considered the importance of an adequate pool of shares to attract, retain and reward our high-performing employees, especially since we compete with many technology companies for a limited pool of talent.
- *Historical Grant Practices*. The Compensation Committee and the Board considered the historical amounts of equity awards that we have granted in the past three years. In fiscal years 2019, 2018 and 2017, we granted equity awards representing a total of 2,140,831 shares.
- *Forecasted Grants*. As discussed above, the Compensation Committee and the Board anticipates that the proposed share reserve, based on projected share utilization will be sufficient for our equity award usage through at least the first quarter of 2022. In determining the projected share utilization, the Compensation Committee and the Board considered a forecast that included the following factors: (i) the approximate 1,700,000 unissued shares remaining under the 2012 Plan as of the date of the initial Board action to approve the Plan; (ii) the additional 1,000,000 shares that would be available for grant under the Plan, if the stockholders approve the Plan; and (iii) the estimated cancellations and forfeitures returned back to the 2012 Plan and/or the 2004 Plan. Based on these projections, we expect to request additional shares under the Plan at our 2022 Annual Meeting of Stockholders.
- *Proxy Advisory Firm Guidelines*. Because of our significant institutional stockholder base, the Compensation Committee and the Board also considered the relevant guidelines from a proxy advisory firm. Our three-year average burn rate and the dilution relating to the initial share reserve is within such guidelines.

Summary of the 2020 Equity Incentive Plan

The following is a summary of the principal features of the Plan and its operation. The summary is qualified in its entirety by reference to the Plan as set forth in Appendix B.

General

The purposes of the Plan are to attract and retain the best available personnel for positions of substantial responsibility, to provide additional incentive to employees, directors and consultants who perform services to the Company, and to promote the success of the Company's business. These incentives are provided through the grant of stock options, restricted stock, restricted stock units, stock appreciation rights, performance units and performance shares.

Authorized Shares

Subject to the adjustment provisions contained in the Plan, stockholders are being asked to approve 1,000,000 shares of our Common Stock for issuance under the Plan, plus (i) 1,700,000 shares, which represents the approximate number of shares that, as of the date of the initial Board action to adopt the Plan, have been reserved but not issued pursuant to any awards granted under the 2012 Plan and are not subject to any awards granted thereunder, plus (ii) any shares subject to stock options, restricted stock units or other awards granted under the 2012 Plan and/or the 2004 Plan that, on or after the date our stockholders initially approve the Plan, expire or otherwise terminate without having been exercised or issued in full or are forfeited to or repurchased by the Company due to failure to vest, with the maximum number of shares that may be added pursuant to clause (ii) equal to 2,649,965 shares. In addition shares may become available for issuance under the Plan pursuant to the next paragraph. The shares may be authorized, but unissued, or reacquired Common Stock. As of March 31, 2020, the number of shares subject to awards outstanding under the 2012 Plan and the 2004 Plan was 2,611,519 shares.

If any award granted under the Plan expires or becomes unexercisable without having been exercised in full, or, with respect to restricted stock, restricted stock units, performance units or performance shares, is forfeited to or repurchased by the Company due to failure to vest, then the unpurchased or forfeited or repurchased shares subject to such award will become available for future grant or sale under the Plan (unless the Plan has terminated). With respect to the exercise of stock appreciation rights settled in shares, the gross number of shares covered by the portion of the exercised award, whether or not actually issued pursuant to such exercise, will cease to be available under the Plan. If shares issued pursuant to restricted stock, restricted stock units, performance shares or performance units are repurchased by or forfeited to the Company due to failure to vest, such shares will become available for future grant under the Plan. Shares used to pay the exercise price or purchase price of an award or to satisfy the tax withholding obligations of an award will not become available for future grant or sale under the Plan. Shares issued pursuant to awards transferred under any award transfer program will not be again available for grant under the Plan. Payment of cash rather than shares pursuant to an award will not result in reducing the number of shares available for issuance under the Plan.

Adjustments to Shares Subject to the Plan

In the event of any dividend or other distribution (whether in the form of cash, shares, other securities, or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, reclassification, repurchase, or exchange of shares or other securities of the Company, or other change in the corporate structure affecting the Company's Common Stock occurs (other than any ordinary dividends or other ordinary distributions), the Administrator (as defined below), in order to prevent diminution or enlargement of the benefits or potential benefits intended to be made available under the Plan, will adjust the number and class of shares of stock that may be delivered under the Plan, and/or the number, class and price of shares of stock subject to outstanding awards, and the numerical share limits in the Plan.

Administration

The Plan will be administered by the Board, any committee of the Board, or a committee of individuals satisfying applicable laws appointed by the Board in accordance with the terms of the Plan (the "Administrator"). In the case of transactions, including grants to certain officers and key employees of the Company, intended to qualify, as exempt under Rule 16b-3 of the Securities Exchange Act of 1934, the members of the committee must qualify as "non-employee directors" under Rule 16b-3 of the Securities Exchange Act of 1934. (For purposes of this summary of the Plan, the term "Administrator" will refer to the Board or any committee designated by the Board to administer the Plan.)

Subject to the terms of the Plan, the Administrator has the authority to interpret and administer the Plan, including but not limited to, the authority, in its discretion, to select the employees, consultants, and directors who will receive awards, to determine the terms and conditions of awards, to modify or amend each award (subject to the restrictions of the Plan), including to accelerate vesting or waive forfeiture restrictions, to extend the post-termination exercise period applicable to an award, and to interpret the provisions of the Plan and outstanding awards. The Administrator may allow a participant to defer the receipt of payment of cash or delivery of shares that otherwise would be due to such participant. The Administrator may make rules and regulations relating to sub-plans established for the purpose of satisfying applicable non-U.S. laws and may make all other determinations deemed necessary or advisable for administering the Plan. The Administrator may temporarily suspend the exercisability of an award if the Administrator deems such suspension to be necessary or appropriate for administrative purposes or to comply with applicable laws, provided that such suspension must be lifted prior to the expiration of the maximum term and post-termination exercisability period of an award, unless doing so would not comply with applicable laws. The Administrator may not institute an award exchange program and/or award transfer program.

Eligibility

Awards may be granted to employees, directors and consultants of the Company and employees and consultants of any parent or subsidiary corporation of the Company. Incentive stock options may be granted only to employees who, as of the time of grant, are employees of the Company or any parent or subsidiary corporation of the Company. As of March 16, 2020, approximately 263 employees, directors and consultants were eligible to participate in the Plan. As of the same date, the closing price of a share of Company common stock as reported on Nasdaq was $3.72.

Stock Options

Each option granted under the Plan will be evidenced by a written or electronic agreement between the Company and a participant specifying the number of shares subject to the option and the other terms and conditions of the option, consistent with the requirements of the Plan.

The exercise price per share of each option may not be less than the fair market value of a share of the Company's Common Stock on the date of grant. However, an exception may be made for any options that are granted in substitution for options held by employees of companies that the Company acquires in a manner consistent with Section 424(a) of the Code. In addition any incentive stock option granted to an employee who, at the time of grant, owns stock representing more than 10% of the total combined voting power of all classes of stock of the Company or any parent or subsidiary corporation of the Company (a "Ten Percent Stockholder") must have an exercise price per share equal to at least 110% of the fair market value of a share on the date of grant. The aggregate fair market value of the shares (determined on the grant date) covered by incentive stock options which first become exercisable by any participant during any calendar year also may not exceed $100,000. Generally, the fair market value of the Common Stock is the closing price of our stock on any established stock exchange or national market system on the applicable date.

The Plan provides that the Administrator will determine the acceptable form(s) of consideration for exercising an option. An option will be deemed exercised when the Company receives the notice of exercise and full payment for the shares to be exercised, together with any applicable tax withholdings.

Options will be exercisable at such times or under such conditions as determined by the Administrator and set forth in the award agreement. The maximum term of an option will be specified in the award agreement, provided that incentive stock options will have a maximum term of no more than ten (10) years, and provided further that an incentive stock option granted to a Ten Percent Stockholder must have a term not exceeding five (5) years.

The Administrator will determine and specify in each award agreement, and solely in its discretion, the period of exercise applicable to each option following a service provider's cessation of service. In the absence of such a determination by the Administrator, the participant generally will be able to exercise his or her option for (i) three (3) months following his or her cessation of service for reasons other than death or disability, and (ii) twelve (12) months following his or her cessation of service due to disability or following his or her death while holding the option. An award agreement may provide for an extension of a post-service exercise period upon a cessation of service for reasons other than death or disability if the exercise of the option following such cessation of service would result in liability under Section 16(b) of the Exchange Act or would violate the registration requirements under the Securities Act.

Restricted Stock Awards

Awards of restricted stock are rights to acquire or purchase shares, which vest in accordance with the terms and conditions established by the Administrator in its sole discretion. Each restricted stock award granted will be evidenced by a written or electronic agreement between the Company and the participant specifying the number of shares subject to the award and the other terms and conditions of the award, consistent with the requirements of the Plan. Restricted stock awards may be subject to vesting conditions as the Administrator specifies, and the shares acquired may not be transferred by the participant until vested. The Administrator may set restrictions based upon continued employment or service, the achievement of specific performance objectives (Company-wide, departmental, divisional, business unit or individual), applicable federal or state securities laws, or any other basis determined by the Administrator in its discretion.

Unless otherwise provided by the Administrator, a participant will forfeit any shares of restricted stock as to which the restrictions have not lapsed prior to the participant's cessation of service. Unless the Administrator provides otherwise, and subject to the general rules in the Plan related to dividends (described below), participants holding restricted stock will have the right to vote the shares and to receive any dividends paid, except that dividends or other distributions paid in shares will be subject to the same restrictions on transferability and forfeitability as the underlying shares and dividends or other distributions payable with respect to shares subject to awards will not be paid before and unless the underlying shares vest. The Administrator may, in its sole discretion, reduce or waive any restrictions and may accelerate the time at which any restrictions will lapse or be removed.

Restricted Stock Units

The Administrator may grant restricted stock units which represent a right to receive shares at a future date as set forth in the participant's award agreement. Each restricted stock unit granted under the Plan will be evidenced by a written or electronic agreement between the Company and the participant specifying the number of shares subject to the award and other terms and conditions of the award, consistent with the requirements of the Plan. Restricted stock units may be settled, in the sole discretion of the Administrator, in shares, cash or a combination of both.

Restricted stock units will result in a payment to a participant only if the performance goals or other vesting criteria the Administrator may establish are achieved or the awards otherwise vest. The Administrator may set vesting criteria based upon continued employment or service, the achievement of specific performance objectives (Company-wide, departmental, divisional, business unit, or individual goals (including, but not limited to, continued employment or service)), applicable federal or state securities laws or any other basis determined by the Administrator in its discretion, which, depending on the extent to which they are met, will determine the number of restricted stock units to be paid out to participants.

After the grant of a restricted stock unit award, the Administrator, in its sole discretion, may reduce or waive any vesting criteria that must be met to receive a payout and may accelerate the time at which any restrictions will lapse or be removed. A participant will forfeit any unearned restricted stock units as of the date set forth in the award agreement. The Administrator in its sole discretion may pay earned restricted stock units in cash, shares of the Company's Common Stock, or a combination of cash and shares.

Stock Appreciation Rights

A stock appreciation right gives a participant the right to receive the appreciation in the fair market value of Company Common Stock between the date of grant of the award and the date of its exercise. Each stock appreciation right granted under the Plan will be evidenced by a written or electronic agreement between the Company and the participant specifying the exercise price and the other terms and conditions of the award, consistent with the requirements of the Plan.

The exercise price per share of each stock appreciation right may not be less than the fair market value of a share on the date of grant. Upon exercise of a stock appreciation right, the holder of the award will be entitled to receive an amount determined by multiplying (i) the difference between the fair market value of a share on the date of exercise over the exercise price by (ii) the number of exercised shares. The Company may pay the appreciation in cash, in shares, or in some combination thereof. The term of a stock appreciation right will be set forth in the award agreement. The terms and conditions relating to the period of exercise following a cessation of service with respect to options described above also apply to stock appreciation rights.

Performance Units and Performance Shares

Performance units and performance shares may also be granted under the Plan. Performance units and performance shares are awards that will result in a payment to a participant only if the performance goals or other vesting criteria the Administrator may establish are achieved or the awards otherwise vest. Each award of performance units or shares granted under the Plan will be evidenced by a written or electronic agreement between the Company and the participant specifying the performance period and other terms and conditions of the award, consistent with the requirements of the Plan. Earned performance units and performance shares will be paid, in the sole discretion of the Administrator, in the form of cash, shares (which will have an aggregate fair market value equal to the earned performance units or shares at the close of the applicable performance period), or in a combination thereof. The Administrator may set vesting criteria based upon continued employment or service, the achievement of specific performance objectives (Company-wide, departmental, divisional, business unit or individuals goals (including, but not limited to, continued employment or service)), applicable federal or state securities laws, or any other basis determined by the Administrator in its discretion, and which, depending on the extent to which they are met, will determine the number and/or the value of performance units and performance shares to be paid out to participants.

After the grant of a performance unit or performance share, the Administrator, in its sole discretion, may reduce or waive any performance objectives or other vesting provisions for such performance units or shares. Performance units will have an initial value established by the Administrator on or before the date of grant. Each performance share will have an initial value equal to the fair market value of a share on the grant date. A participant will forfeit any performance shares or units that are unearned or unvested as of the date set forth in the award agreement.

Non-Employee Director Limitations

The Plan provides that, subject to the adjustment provisions in the Plan, in any fiscal year of the Company, a non-employee director may not be granted equity awards covering more than 25,000 shares, increased to 40,000 shares in the fiscal year of his or her initial service as a non-employee director (excluding awards granted to him or her as a consultant or employee).

Dividends

Dividends or other distributions payable with respect to shares subject to equity awards will not be paid before and unless the underlying shares vest, and will be subject to the same forfeitability provisions as the underlying shares. No dividends or other distributions will be paid with respect to shares that are subject to unexercised options or stock appreciation rights, although this rule will not preclude the Administrator from exercising its powers and authority under the adjustment, liquidation and merger and change in control provisions of the Plan.

Transferability of Awards

Unless determined otherwise by the Administrator and subject to the terms of the Plan, awards granted under the Plan generally are not transferable other than by will or by the laws of descent and distribution, and all rights with respect to an award granted to a participant generally will be available during a participant's lifetime only to the participant.

Dissolution or Liquidation

In the event of the Company's proposed dissolution or liquidation, the Administrator will notify each participant as soon as practicable prior to the effective date of such proposed transaction. An award will terminate immediately prior to consummation of such proposed action to the extent the award has not been previously exercised or vested.

Change in Control

The Plan provides that, in the event of a merger of the Company with or into another corporation or entity or a "change in control" (as defined in the Plan), each award will be treated as the Administrator determines without a participant's consent, including, without limitation, that (i) awards will be assumed, or substantially equivalent awards will be substituted, by the acquiring or succeeding corporation or its affiliate with appropriate adjustments as to the number and kind of shares and prices; (ii) upon written notice to a participant, that the participant's awards will terminate upon or immediately prior to the consummation of such merger or change in control; (iii) outstanding awards will vest and become exercisable, realizable or payable or restrictions applicable to an award will lapse, in whole or in part, prior to or upon consummation so such merger of change in control, and, to the extent the Administrator determines, terminate upon or immediately prior to the effectiveness of such merger or change in control; (iv) (A) the termination of an award in exchange for an amount of cash and/or property, if any, equal to the amount that would have been attained upon the exercise of such award or realization of the participant's rights as of the date of the occurrence of the transaction (and, for the avoidance of doubt, if as of the date of the occurrence of the transaction the Administrator determines in good faith that no amount would have been attained upon the exercise of such award or realization of the participant's rights, then such award may be terminated by the Company without payment), or (B) the replacement of such award with other rights or property selected by the Administrator in its sole discretion; or (v) any combination of the foregoing. In taking any of the actions permitted by the Plan, the Administrator will not be obligated to treat all awards, all awards held by a participant, all awards of the same type, or all portions of awards, similarly in the transaction.

If the successor corporation does not assume or substitute for the award (or portion thereof), the participant will fully vest in and have the right to exercise the participant's outstanding options and stock appreciation rights (or portion thereof) that is not assumed or substituted for, all restrictions on restricted stock, restricted stock units, performance shares and performance units (or portions thereof) not assumed or substituted for will lapse, and, with respect to such awards with performance-based vesting (or portions thereof), all performance goals or other vesting criteria will be deemed achieved at 100% of target levels and all other terms and conditions met, in each case, unless specifically provided otherwise under the applicable award agreement or other written agreement between the participant and the Company. In addition, unless specifically provided otherwise under the applicable award agreement or other written agreement between the participant and the Company, if an option or stock appreciation right (or portion thereof) is not assumed or substituted for, the Administrator will notify the participant in writing or electronically that the option or stock appreciation right (or its applicable portion) will be exercisable for a period of time determined by the Administrator in its sole discretion, and the option or stock appreciation right (or its applicable portion) will terminate upon the expiration of such period.

In the event of a change in control, all outstanding awards granted to non-employee members of our Board will fully vest as of immediately prior to such change in control and the participant will have the right to exercise all of his or her outstanding options and stock appreciation rights, all restrictions on restricted stock and restricted stock units will lapse, and, with respect to awards with performance-based vesting, all performance goals or other vesting criteria will be deemed achieved at 100% of target levels and all other terms and conditions met, unless specifically provided otherwise under the applicable award agreement or other written agreement between the participant and the Company.

Termination or Amendment

The Plan will automatically terminate ten (10) years from the date of its initial adoption by the Board in 2020, unless terminated at an earlier time by the Administrator. The Administrator may amend, alter, suspend or terminate the Plan at any time, provided that the Company will obtain stockholder approval of any amendment to the extent approval is necessary and desirable to comply with any applicable laws. No amendment, alteration, suspension or termination will materially impair the rights of any participant unless mutually agreed otherwise between the participant and the Administrator.

Federal Tax Aspects

The following summary is intended only as a general guide to the material U.S. federal income tax consequences of participation in the Plan. The summary is based on existing U.S. laws and regulations, and there can be no assurance that those laws and regulations will not change in the future. The summary does not purport to be complete and does not discuss the tax consequences upon a participant's death, or the provisions of the income tax laws of any municipality, state or non-U.S. country in which the participant may reside. As a result, tax consequences for any particular participant may vary based on individual circumstances.

Incentive Stock Options

An optionee recognizes no taxable income for regular income tax purposes as a result of the grant or exercise of an incentive stock option qualifying under Section 422 of the Code. Optionees who neither dispose of their shares within two (2) years following the date the option was granted nor within one (1) year following the exercise of the option normally will recognize a capital gain or loss equal to the difference, if any, between the sale price and the purchase price of the shares. If an optionee satisfies such holding periods upon a sale of the shares, the Company will not be entitled to any deduction for federal income tax purposes. If an optionee disposes of shares within two (2) years after the date of grant or within one (1) year after the date of exercise (a "disqualifying disposition"), the difference between the fair market value of the shares on the exercise date and the option exercise price (not to exceed the gain realized on the sale if the disposition is a transaction with respect to which a loss, if sustained, would be recognized) will be taxed as ordinary income at the time of disposition. Any gain in excess of that amount will be a capital gain. If a loss is recognized, there will be no ordinary income, and such loss will be a capital loss. Any ordinary income recognized by the optionee upon the disqualifying disposition of the shares generally should be deductible by the Company for federal income tax purposes, except to the extent such deduction is limited by applicable provisions of the Code.

The difference between the option exercise price and the fair market value of the shares on the exercise date is treated as an adjustment in computing the optionee's alternative minimum taxable income and may be subject to an alternative minimum tax which is paid if such tax exceeds the regular tax for the year. Special rules may apply with respect to certain subsequent sales of the shares in a disqualifying disposition, certain basis adjustments for purposes of computing the alternative minimum taxable income on a subsequent sale of the shares and certain tax credits which may arise with respect to optionees subject to the alternative minimum tax.

Nonstatutory Stock Options

Options not designated or qualifying as incentive stock options will be nonstatutory stock options having no special U.S. tax status. An optionee generally recognizes no taxable income as the result of the grant of such an option. Upon exercise of a nonstatutory stock option, the optionee normally recognizes ordinary income equal to the amount that the fair market value of the shares on such date exceeds the exercise price. If the optionee is an employee, such ordinary income generally is subject to withholding of income and employment taxes. Upon the sale of stock acquired by the exercise of a nonstatutory stock option, any gain or loss, based on the difference between the sale price and the fair market value on the exercise date, will be taxed as capital gain or loss. No tax deduction is available to the Company with respect to the grant of a nonstatutory stock option or the sale of the stock acquired pursuant to such grant.

Stock Appreciation Rights

In general, no taxable income is reportable when a stock appreciation right is granted to a participant. Upon exercise, the participant generally will recognize ordinary income in an amount equal to the fair market value of any shares of our Common Stock received. If the participant is an employee, such ordinary income generally is subject to withholding of income and employment taxes. Any additional gain or loss recognized upon any later disposition of the shares would be capital gain or loss.

Restricted Stock Awards

A participant acquiring restricted stock generally will recognize ordinary income equal to the fair market value of the shares on the vesting date. If the participant is an employee, such ordinary income generally is subject to withholding of income and employment taxes. The participant may elect, pursuant to Section 83(b) of the Code, to accelerate the ordinary income tax event to the date of acquisition by filing an election with the Internal Revenue Service no later than thirty (30) days after the date the shares are acquired. Upon the sale of shares acquired pursuant to a restricted stock award, any gain or loss, based on the difference between the sale price and the fair market value on the date the ordinary income tax event occurs, will be taxed as capital gain or loss.

Restricted Stock Unit Awards

There generally are no immediate tax consequences of receiving an award of restricted stock units. A participant who is awarded restricted stock units generally will be required to recognize ordinary income in an amount equal to the fair market value of shares issued to such participant at the end of the applicable vesting period or, if later, the settlement date elected by the Administrator or a participant. If the participant is an employee, such ordinary income generally is subject to withholding of income and employment taxes. Any additional gain or loss recognized upon any later disposition of any shares received would be capital gain or loss.

Performance Shares and Performance Unit Awards

A participant generally will recognize no income upon the grant of a performance share or a performance unit award. Upon the settlement of such awards, participants normally will recognize ordinary income in the year of receipt in an amount equal to the cash received and the fair market value of any cash or nonrestricted shares received. If the participant is an employee, such ordinary income generally is subject to withholding of income and employment taxes. Upon the sale of any shares received, any gain or loss, based on the difference between the sale price and the fair market value on the date the ordinary income tax event occurs, will be taxed as capital gain or loss.

Section 409A

Section 409A of the Code provides certain requirements for non-qualified deferred compensation arrangements with respect to an individual's deferral and distribution elections and permissible distribution events. Awards granted under the Plan with a deferral feature will be subject to the requirements of Section 409A of the Code. If an award is subject to and fails to satisfy the requirements of Section 409A of the Code, the recipient of that award may recognize ordinary income on the amounts deferred under the award, to the extent vested, which may be prior to when the compensation is actually or constructively received. Also, if an award that is subject to Section 409A fails to comply with Section 409A's provisions, Section 409A imposes an additional 20% federal income tax on compensation recognized as ordinary income, as well as interest on such deferred compensation. Certain states have enacted laws similar to Section 409A which impose additional taxes, interest and penalties on non-qualified deferred compensation arrangements. The Company will also have withholding and reporting requirements with respect to such amounts.

Medicare Surtax

A participant's annual "net investment income", as defined in Section 1411 of the Internal Revenue Code, may be subject to a 3.8% federal surtax (generally referred to as the "Medicare Surtax"). Net investment income may include capital gain and/or loss arising from the disposition of shares subject to a participant's awards under the Plan. Whether a participant's net investment income will be subject to the Medicare Surtax will depend on the participant's level of annual income and other factors.

Tax Effect for the Company

The Company generally will be entitled to a tax deduction in connection with an award under the Plan in an amount equal to the ordinary income realized by a participant and at the time the participant recognizes such income (for example, the exercise of a nonstatutory stock option). Special rules limit the deductibility of compensation paid to our chief executive officer and other "covered employees" as determined under Section 162(m) and applicable guidance. Under Section 162(m), the annual compensation paid to any of these specified executives will be deductible only to the extent that it does not exceed $1,000,000.

Number of Awards Granted to Employees, Consultants, and Directors

The number of awards that an employee, director or consultant may receive under the Plan is in the discretion of the Administrator and therefore cannot be determined in advance. The following table sets forth (i) the aggregate number of shares of Common Stock subject to options and restricted stock units granted under the 2012 Plan to our NEOs and the below-listed groups during the last fiscal year (no other types of awards were granted to such individuals during the last fiscal year) and (ii) the average per share exercise price of such options.

Name of Individual or Group	Number of Options Granted	Weighted Average Per Share Exercise Price of Options	Number of Shares of Restricted Stock Units Granted
Wendell Blonigan, President and Chief Executive Officer	75,000	$5.25	40,000
James Moniz, Executive Vice President and Chief Financial Officer	40,000	$5.68	20,000
Jay Cho, Executive Vice President and General Manager, Thin Film Equipment	30,000	$5.68	15,000
Timothy Justyn, Executive Vice President and General Manager, Photonics	30,000	$5.68	15,000
All executive officers, as a group	174,000	$5.50	90,000
All directors who are not executive officers, as a group	50,000	$4.71	54,000
All employees who are not executive officers, as a group	147,500	$5.67	175,743

Required Vote

The affirmative vote of the holders of a majority of the shares present in person or represented by proxy at the Annual Meeting and entitled to vote on the proposal (provided that such vote also constitutes the affirmative vote of a majority of the required quorum) will be required for approval of the Intevac 2020 Equity Incentive Plan.

Summary

We believe strongly that approval of the 2020 Equity Incentive Plan is essential to our continued success and ability to compete for talent in the labor markets in which we operate. Our employees are one of our most valuable assets. Stock options and other awards such as those provided under the 2020 Equity Incentive Plan are vital to our ability to attract and retain outstanding and highly skilled individuals. Such awards also are crucial to our ability to motivate employees to achieve the Company's goals. For the reasons stated above, the stockholders are being asked to approve the 2020 Equity Incentive Plan.

PROPOSAL FOUR

RATIFICATION OF INDEPENDENT PUBLIC ACCOUNTANTS

The Audit Committee of the Board has selected BPM LLP as our independent public accountants for the fiscal year ending January 2, 2021. BPM LLP began auditing our financial statements in 2015. Its representatives are expected to be present at the Annual Meeting, will have an opportunity to make a statement if they desire to do so, and will be available to respond to appropriate questions.

The Board of Directors unanimously recommends a vote "FOR" ratification of the selection of BPM LLP as Intevac's independent registered public accounting firm for the fiscal year ending January 2, 2021.

Required Vote

The affirmative vote of the holders of a majority of the shares present in person or represented by proxy at the Annual Meeting and entitled to vote on the proposal (provided that such vote also constitutes the affirmative vote of a majority of the required quorum) will be required to ratify the selection of BPM LLP as Intevac's independent registered public accounting firm for the fiscal year ending January 2, 2021.

Principal Accountant Fees and Services

The following table presents fees billed for professional audit services and other services rendered to us by BPM LLP for the fiscal years ended December 28, 2019 and December 29, 2018.

	BPM LLP	
	2019	**2018**
Audit Fees (1)	$730,505	$707,933
Audit-Related Fees (2)	—	—
Tax Fees (3)	—	—
All Other Fees (4)	—	—
Total Fees	$730,505	$707,933

(1) Audit fees consist of fees billed for professional services rendered for the audit of our annual consolidated financial statements and review of the interim consolidated financial statements included in our Quarterly Reports on Form 10-Q and fees for services that are normally provided in connection with statutory and regulatory filings or engagements. In addition, audit fees include those fees related to the audit of the effectiveness of our internal controls over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act. This category also includes advice on accounting matters that arose during, or as a result of, the audit or the review of the interim consolidated financial statements. The 2019 and 2018 audit fees do not include $46,797 and $44,197 paid to firms other than our independent registered public accounting firm, BPM LLP, for statutory engagements.

(2) Audit related fees consist of assurance and related services that are reasonably related to the performance of the audit of our consolidated financial statements and are not reported under "Audit Fees". There were no services provided under this category in fiscal 2019 and fiscal 2018.

(3) Tax fees consist of fees billed for tax compliance, consultation and planning services. There were no services provided under this category in fiscal 2019 and fiscal 2018.

(4) All other fees consist of fees for other corporate related services. There were no services provided under this category in fiscal 2019 and fiscal 2018.

In making its recommendation to ratify the appointment of BPM LLP as our independent auditor for the fiscal year ending January 2, 2021, the Audit Committee has considered whether services other than audit and audit-related services provided by BPM LLP are compatible with maintaining the independence of BPM LLP and noted that no such services were provided by BPM LLP during the fiscal years ended December 28, 2019 and December 29, 2018.

Pre-Approval of Audit and Permissible Non-Audit Services

Our Audit Committee approves in advance all engagements with BPM LLP, including the audit of our annual financial statements, the review of the financial statements included in our Quarterly Reports on Form 10-Q and tax compliance services. Fees billed by BPM LLP are reviewed and approved by the Audit Committee on a quarterly basis.

PROPOSAL FIVE

ADVISORY VOTE TO APPROVE EXECUTIVE COMPENSATION

The Company asks that you indicate your support for its executive compensation policies and practices as described in the Company's Compensation Discussion and Analysis, accompanying tables and related narrative contained in this Proxy Statement. This proposal is required by Section 14A of the Exchange Act and is commonly known as a "say-on-pay" proposal, and gives our stockholders the opportunity to express their views on the compensation of our NEOs. Your vote is advisory and so will not be binding on the Board. However, the Board will review the voting results and take them into consideration when making future decisions regarding executive compensation. We currently hold "say-on-pay" votes annually, and expect that the next "say-on-pay" vote will be held at our 2021 annual meeting of stockholders.

Compensation Program and Philosophy

As described in detail under the headings "Executive Compensation and Related Information" and "Compensation Discussion and Analysis," our NEO compensation program is designed to attract, retain, motivate and reward high-caliber executives who are critical to our success while maintaining strong and direct links between executive pay, individual performance, the Company's financial performance and performance for our stockholders. The Compensation Committee believes that the Company's executive compensation programs should support the Company's objective of creating value for its stockholders.

Accordingly, the Compensation Committee believes that NEOs should have a significant interest in the Company's stock performance, and compensation programs should link executive compensation to stockholder value. One of the ways that the Company has sought to accomplish these goals is by making a significant portion of individual NEO compensation performance-based, such as through a performance-based annual bonus dependent on each NEO's performance relative to financial and other strategic objectives. In addition, the Company makes annual grants of stock options, which focus the NEO on creating stockholder value while encouraging executives to build an equity interest in the Company, and annual grants of time-based restricted stock units, which promote retention of key leadership talent. In 2019, part of the annual stock option grant to our CEO contains performance-based vesting, with vesting based on the achievement of challenging stock price hurdles, set between 25% and 75% above the grant date stock price, during a four-year performance period. Finally, the Company generally pays NEOs compensation that will be above peer company executive compensation when Company performance is above its peer companies and below peer company executive compensation when the Company's financial performance is below that of its peer companies.

The Compensation Committee will continue to emphasize compensation arrangements that align the financial interests of Intevac's NEOs with the long-term interests of stockholders. Please refer to the section of this proxy statement entitled "Executive Compensation and Related Information" for a detailed discussion of Intevac's executive compensation practices and philosophy.

We are asking our stockholders to indicate their support for our NEO compensation as described in this proxy statement. This vote is not intended to address any specific item of compensation, but rather the overall compensation of our NEOs and the philosophy, policies and practices described in this Proxy Statement. Accordingly, we ask our stockholders to vote "FOR" the following resolution at the 2020 Annual Meeting:

> "RESOLVED, that the Company's stockholders approve, on a non-binding, advisory basis, the compensation of the named executive officers, as disclosed in the Company's Proxy Statement for the 2020 Annual Meeting of Stockholders pursuant to the compensation disclosure rules of the Securities and Exchange Commission, including the Compensation Discussion and Analysis, the tabular disclosure regarding such compensation and the accompanying narrative disclosure."

The Board of Directors recommends a vote "FOR" the approval, on a non-binding, advisory basis, of the compensation of the Company's executives named in the 2019 Summary Compensation Table, as disclosed in this proxy statement pursuant to the executive compensation disclosure rules of the Securities and Exchange Commission, which disclosure includes the Compensation Discussion and Analysis, the compensation tables and other executive compensation disclosures.

Required Vote

The affirmative vote of the holders of a majority of the shares present in person or represented by proxy at the Annual Meeting and entitled to vote on the proposal (provided that that vote also constitutes the affirmative vote of a majority of the required quorum) will be required to approve, on a non-binding, advisory basis, the compensation of the Company's NEOs.

CORPORATE GOVERNANCE MATTERS

Code of Business Conduct and Ethics

We have adopted a Code of Business Conduct and Ethics that applies to all of our employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, and persons performing similar functions. We have also adopted a Director Code of Ethics that applies to all of our directors. You can find both our Code of Business Conduct and Ethics and our Director Code of Ethics on our website at www.intevac.com. We post any amendments to the Code of Business Conduct and Ethics and the Director Code of Ethics, as well as any waivers, which are required to be disclosed by the rules of either the SEC or Nasdaq on our website.

Independence of the Board

The Board has determined that, with the exception of Mr. Blonigan, all of its members are "independent directors" as that term is defined in the listing standards of Nasdaq.

Board Meetings and Committees

During 2019, the Board held a total of 5 meetings (including regularly scheduled and special meetings) and also took certain actions by written consent. All members of the Board during fiscal 2019 attended at least seventy-five percent of the aggregate of the total number of meetings of the Board held during the fiscal year and the total number of meetings held by all committees of the Board on which each such director served (based on the time that each member served on the Board and the committees). The Board has an Audit Committee, a Compensation Committee and a Nominating and Governance Committee.

Audit Committee

The Audit Committee, which has been established in accordance with Section 3(a)(58)(A) of the Exchange Act, currently consists of Ms. Hayes (chairman), Mr. Barber, Mr. Popovich, and Mr. Rohrs, each of whom is "independent" as such term is defined for audit committee members by the rules of the SEC and Nasdaq listing standards. The Board has determined that Ms. Hayes, Mr. Barber and Mr. Rohrs are "audit committee financial experts" as defined under the rules of the SEC and are "financially sophisticated" for purposes of the Nasdaq listing standards. The Audit Committee met 8 times during 2019.

The Audit Committee is responsible for:

- Overseeing our accounting and financial reporting processes and audits of our financial statements;
- Assisting the Board in overseeing and monitoring (i) the integrity of our financial statements, (ii) our independent auditor's qualifications, independence and performance, and (iii) our internal accounting and financial controls;
- Preparing the report that the rules of the SEC require be included in this proxy statement;
- Periodically providing the Board with the results of its monitoring and recommendations derived therefrom; and
- Providing to the Board additional information and materials as it deems necessary to make the Board aware of significant financial matters that require the attention of the Board.

The Audit Committee has adopted a written charter approved by the Board, which is available on Intevac's website at www.intevac.com under "Investors — Corporate Governance."

The Audit Committee Report is included in this proxy statement on page 56.

Compensation Committee

The Compensation Committee currently consists of Mr. Barber (chairman), Dr. Jamison, Ms. Klein and Mr. Rohrs, each of whom is "independent" as such term is defined by the Nasdaq listing standards and the rules of the SEC. The Compensation Committee met 1 time during 2019.

The Compensation Committee is responsible for:

- Overseeing the entirety of our compensation and benefit policies, plans and programs;

- Overseeing the annual report on executive compensation for inclusion in our proxy statement; and
- Overseeing executive succession planning.

See “Executive Compensation — Compensation Discussion and Analysis” and “Executive Compensation — Compensation of Directors” below for a description of Intevac’s processes and procedures for the consideration and determination of executive and director compensation.

The Compensation Committee has adopted a written charter approved by the Board, a copy of which is available on Intevac’s website at www.intevac.com under “Investors — Corporate Governance.”

Nominating and Governance Committee

The Nominating and Governance Committee currently consists of Mr. Dury (chairman), Mr. Popovich and Ms. Klein, each of whom is “independent” as such term is defined by the Nasdaq listing standards. The Nominating and Governance Committee met 3 times during 2019.

The primary focus of the Nominating and Governance Committee is on the broad range of issues surrounding the composition and operation of the Board. The Nominating and Governance Committee provides assistance to the Board, the Chairman and the CEO in the areas of membership selection, committee selection and rotation practices, evaluation of the overall effectiveness of the Board, and review and consideration of developments in corporate governance practices. The Nominating and Governance Committee’s goal is to ensure that the composition, practices, and operation of the Board contribute to value creation and effective representation of Intevac stockholders.

The Nominating and Governance Committee will consider recommendations of candidates for the Board submitted by the stockholders of Intevac; for more information, see “Policy Regarding Board Nominees” below.

The Nominating and Governance Committee has adopted a written charter approved by the Board, a copy of which is available on Intevac’s website at www.intevac.com under “Investors — Corporate Governance.”

Attendance at Annual Stockholder Meetings by the Board

Intevac encourages members of the Board to attend the annual meeting of stockholders, but does not have a policy requiring attendance. Mr. Dury (our Chairman of the Board), Mr. Blonigan, Mr. Barber, Mr. Jamison, Mr. Popovich, Mr. Rohrs and Mr. Schaefer attended Intevac’s 2019 annual meeting of stockholders.

Board Leadership Structure

Our Company is led by Mr. Blonigan, our CEO. Mr. Dury, who was formerly our lead independent director, currently serves as the Chairman of our Board. The Company believes the stockholders are best served by this structure, which provides us with a dynamic leader and a strong independent voice.

As further discussed above under “Board Meetings and Committees”, the Board has three standing committees—Audit, Compensation and Nominating and Governance. Each of the Board committees is comprised solely of independent directors, with each of the three committees having a separate chair. Our corporate governance guidelines provide that our non-employee directors meet in an executive session at each Board meeting. We also have a mechanism for stockholders to communicate directly with independent directors as a group or with any individual director. See “Contacting the Board” below.

Our directors bring a broad range of leadership experience to the Board and regularly contribute to the oversight of the Company’s business and affairs. We believe that all Board members are well engaged in their responsibilities and that all Board members express their views and consider the opinions expressed by other directors. On an annual basis as part of our governance review, the Board (led by the Nominating and Governance Committee) evaluates our leadership structure to ensure that it remains the optimal structure for our company and our stockholders.

We believe that our leadership structure has been effective for the Company. We believe that having an independent chairman and independent chairs for each of our Board committees provides the right amount of independence for our company. We have a strong leader and independent chairman, and oversight of company operations by experienced independent directors who have appointed committee chairs.

Lead Independent Director

If we have a chairman of the board that is not independent in the future, the Board will appoint a lead independent director to schedule and chair meetings of the independent directors and execute any other duties that the independent directors designate.

Policy Regarding Board Nominees

It is the policy of the Nominating and Governance Committee of the Company to consider recommendations for candidates to the Board from stockholders. Stockholder recommendations of candidates for election to the Board should be directed in writing to: Intevac, Inc., 3560 Bassett Street, Santa Clara, California, 95054, and must include the candidate's name, home and business contact information, detailed biographical data and qualifications, information regarding any relationships between the candidate and the Company within the last three years, and evidence of the nominating person's ownership of Company stock. Stockholder nominations to the Board must also meet the requirements set forth in the Company's Bylaws. The Nominating and Governance Committee also reviews materials provided by professional search firms and other parties in connection with a nominee who is not proposed by a stockholder. In evaluating such nominations, the Nominating and Governance Committee seeks to achieve a balance of knowledge, experience and capability on the Board.

The Nominating and Governance Committee's criteria and process for identifying and evaluating the candidates that it selects, or recommends to the full Board for selection, as director nominees are as follows:

- The Nominating and Governance Committee regularly reviews the current composition, size and effectiveness of the Board.
- In its evaluation of director candidates, including the members of the Board eligible for re-election, the Committee seeks to achieve a balance of knowledge, experience and capability on the Board and considers (1) the current size and composition of the Board and the needs of the Board and the respective committees of the Board, (2) such factors as issues of character, judgment, diversity, age, expertise, business experience, length of service, independence, other commitments and the like, (3) the relevance of the candidate's skills and experience to our businesses and (4) such other factors as the Nominating and Governance Committee may consider appropriate.
- While the Nominating and Governance Committee has not established specific minimum qualifications for director candidates, the Nominating and Governance Committee believes that candidates and nominees must reflect a Board that is comprised of directors who (1) are predominantly independent, (2) are of high integrity, (3) have broad, business-related knowledge and experience at the policy-making level in business, government or technology, including an understanding of our industry and our business in particular, (4) have qualifications that will increase overall Board effectiveness and (5) meet other requirements that may be required by applicable rules, such as financial literacy or financial expertise with respect to Audit Committee members.
- The Board will nominate for election or reelection only those candidates who agree to tender, promptly following such candidate's election or reelection, an irrevocable resignation effective upon (i) such candidate's failure to receive the required vote for election at the next meeting at which they would stand for election and (ii) acceptance of such resignation by the Board. In addition, the Board will fill director vacancies and new directorships only with candidates who agree to tender the same form of resignation promptly following their election to the Board.
- With regard to candidates who are properly recommended by stockholders or by other means, the Nominating and Governance Committee will review the qualifications of any such candidate, which review may, in the Nominating and Governance Committee's discretion, include interviewing references for the candidate, direct interviews with the candidate, or other actions that the Committee deems necessary or proper.
- In evaluating and identifying candidates, the Nominating and Governance Committee has the authority to retain or terminate any third party search firm used to identify director candidates, and has the authority to approve the fees and retention terms of any search firm.
- The Nominating and Governance Committee will apply these same principles when evaluating Board candidates who may be elected initially by the full Board to fill vacancies or to expand the Board prior to the annual meeting of stockholders at which directors are elected.
- After completing its review and evaluation of director candidates, the Nominating and Governance Committee selects, or recommends to the full Board for selection, the director nominees.

- The Nominating and Governance Committee, after considering all factors, will decide whether or not to nominate and recommend a nominee to the full Board.

Director Qualifications and Review of Director Nominees

The Nominating and Governance Committee makes recommendations to the Board regarding the size and composition of the Board. The Committee reviews annually with the Board the composition of the Board as a whole. The Committee is responsible for ensuring that the composition of the Board accurately reflects the needs of the Company's business and, in furtherance of this goal, proposing the addition of members and the necessary resignation of members for purposes of obtaining the appropriate members and skills. The specific qualifications of each director are set forth along with their biographical information under "Business Experience and Qualifications of Nominees for Directors" starting on page 9 of this proxy.

Intevac does not maintain a formal diversity policy with respect to its Board. As noted above, however, Intevac does consider diversity to be a relevant consideration, among others, in the process of evaluating and identifying director candidates. Intevac believes each director brings a strong and unique background and set of skills to the Board that contributes to the Board's competence and experience in a wide variety of areas. When identifying director candidates, we take into account the present and future needs of the Board and the committees of the Board. For instance, depending on the composition of the Board at a given time, a candidate capable of meeting the requirements of an audit committee financial expert might be a more attractive candidate than a candidate with significantly more technology industry expertise, or vice versa. We also consider the character, judgment and integrity of director candidates, which we evaluate through reference checks, background verification and reputation in the business community. We believe all of our directors to be of high character, good judgment and integrity. Our principal goal with respect to director qualifications is to seat directors who are able to increase the overall effectiveness of the Board and increase stockholder value.

Contacting the Board

Any stockholder who desires to contact our Chairman of the Board or the other members of our Board may do so by writing to: Board of Directors, c/o the Nominating and Governance Committee Chairman, Intevac, Inc., 3560 Bassett Street, Santa Clara, California, 95054. Communications received by the Nominating and Governance Committee Chairman will be communicated to the Chairman of the Board or the other members of the Board as appropriate depending on the facts and circumstances outlined in the communication received.

Risk Assessment

Our Board is responsible for overseeing enterprise risk in general, while our Audit Committee is responsible for overseeing risk management of financial matters and the adequacy of our risk-related internal controls and our Compensation Committee oversees risk related to compensation policies. Both the Audit and Compensation Committees report their findings to the full Board. In addition, at each of its meetings, the Board discusses the risks that we are currently facing. We believe that our directors provide effective oversight of the risk management function.

Compensation Consultant

The Compensation Committee has engaged Radford, an Aon Hewitt Company ("Radford") to provide independent advice and recommendations on the amount and form of executive and director compensation. The Company did not pay Radford fees in excess of $120,000 during 2019.

EXECUTIVE COMPENSATION AND RELATED INFORMATION

Compensation Discussion and Analysis

The following Compensation Discussion & Analysis ("CD&A") describes the philosophy, objectives and structure of our executive compensation program for fiscal year 2019 (the year ending December 28, 2019). This CD&A is intended to be read in conjunction with the tables following this section which provide further historical compensation information for our named executive officers ("NEOs") as identified below. Because the Company is a smaller reporting company ("SRC"), only Messrs. Blonigan, Moniz and Justyn are currently NEOs within the meaning of SEC rules and regulations. However, we have elected to provide voluntary disclosure as to Mr. Cho's compensation in order to provide our stockholders with additional information regarding the Company's executive compensation practices. Throughout this proxy statement, the use of the term NEO should be understood to include our three NEOs (within the meaning of SEC rules and regulations) as well as Mr. Cho.

Intevac is a SRC under the rules promulgated by the SEC and complies with the disclosure requirements specifically applicable to SRCs. Based on these scaled requirements, the tables in this CD&A and after reflect the scaled disclosure available to SRCs. We have identified the following four executives as our NEOs for 2019:

NAME	POSITION
WENDELL BLONIGAN	President and Chief Executive Officer
JAMES MONIZ	Executive Vice President and Chief Financial Officer
JAY CHO	Executive Vice President and GM, TFE
TIMOTHY JUSTYN	Executive Vice President and GM, Photonics

This CD&A is not required to be included in this proxy under the scaled disclosure requirements applicable to SRCs. However, we have chosen to include this section to provide our stockholders with robust information regarding the NEO compensation decisions made for fiscal year 2019 and to outline the reasoning behind these decisions.

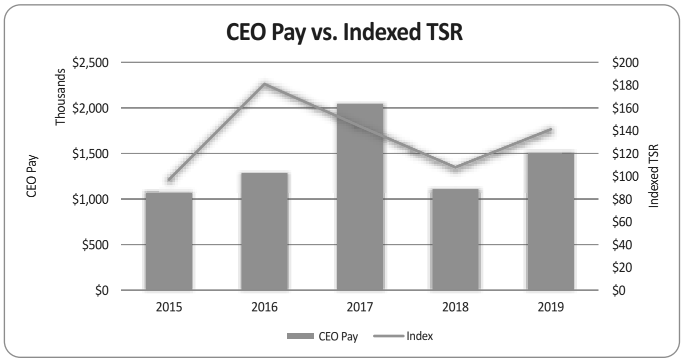
Executive Summary

Fiscal 2019 was a profitable growth year for our business and we continued to execute on our short-term and long-term strategy, with year-end backlog of $92.4 million*, driven by significant new orders in Photonics. New orders were $92.8 million and revenues were $108.9 million*, up 14% from 2018. In TFE, revenues were $73.7 million*, up 6% from 2018. The HDD market continues to be profitable market for us, given the growth of nearline cloud storage demand. We also made significant progress in our TFE growth initiatives, placing evaluation tools with leading manufacturers in both the display cover glass market and the advanced semiconductor packaging market. In Photonics, revenues strongly rebounded in 2019 driven primarily by the IVAS contract award and revenues were $35.2 million*, up 37% from 2018. We booked a new record $40 million order in July in Photonics, which along with the IVAS program, is driving Photonics backlog to new record levels, with multi-year visibility for continued strong growth and profitability. Each of these milestones supports the long-term revenue growth and profitability objectives for Intevac. However, Intevac must continue to be focused strategically, as our businesses will continue to be characterized by rapidly changing technology and customer requirements, intense competition, fluctuating revenues and significant competition for management talent.

---

* Actual results for revenue and backlog are reported on a U.S. GAAP basis and are set forth in the Consolidated Statements of Income and under Note 2 of the notes to Consolidated Financial Statements included in our Annual Report on Form 10-K for fiscal 2019 filed with the SEC on February 12, 2020.

How Our Recent Performance Has Affected Pay



Our plans, and our pay levels, reflect our performance. Our stock price performance and other recent operational challenges have underscored the fact that our pay program has properly aligned executive pay and performance, in both the short-term and the longer-term.

2019 Pay Decisions and Outcomes

In 2019, the Compensation Committee worked diligently with management to make prudent decisions with regards to our executive compensation throughout the year that was considerate and reflective of stockholder feedback including support of 70 % of votes cast for our say-on-pay proposal last year. The key decisions and outcomes included:

- In light of the improved financial outlook the 10% temporary base salary reduction for all NEOs implemented in April 2018, which lapsed in December 2018, was not re-instated in 2019. The base salaries of Mr. Blonigan and Mr. Cho were not increased from 2018 levels.
- Higher AIP payout reflected the Company's return to profitability.
- A performance-based equity program was instituted for Mr. Blonigan.
- Except for the CFO, the Compensation Committee granted a similar number of equity awards in 2019 as was granted in the prior year. The CFO's increased grant award is a result of a benchmarking study against other CFOs in the peer group companies.
- Please see below for a summary of paid compensation as reflected in our Summary Compensation Table:

	2018 Base *	2019 Base	2018 AIP	2019 AIP	2018 Equity	2019 Equity	2018 Total Direct Compensation	2019 Total Direct Compensation	Change
Wendell Blonigan	$511.9	$547.9	$137.5	$313.0	$335.2	$377.6	$986.6	$1,240.5	***25.7%***
James Moniz	$303.7	$328.2	$ 84.7	$128.9	$129.4	$203.8	$519.9	$ 663.0	***27.5%***
Jay Cho	$288.5	$297.2	$ 46.5	$ 82.0	$129.4	$152.9	$466.4	$ 534.2	***14.5%***
Timothy Justyn	$259.9	$294.9	$ 59.9	$ 89.6	$166.9	$152.9	$488.6	$ 539.4	***10.4%***

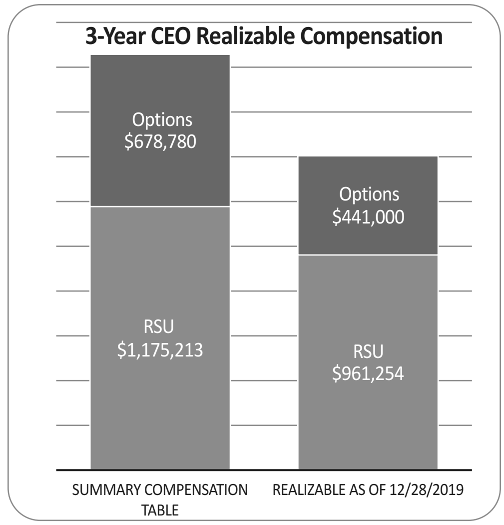
All numbers in thousands

* 2018 NEO salaries reflect a temporary 10% base salary reduction for all NEOs implemented in April 2018, which lapsed in December 2018 and was not re-instated in 2019.

Longer-Term Effect on Pay

With a significant portion of executive pay directly tied to share price performance, compensation that is realized by our executive team is much less than the levels reported in the Summary Compensation Table (“SCT”) annually. The grant date fair value of time-based and performance-based options (“PSOs”) and time-based and performance-based RSUs (“PRSUs”), as shown in the SCT, report value that may never be recognized.

The ultimate value our CEO realizes from long-term incentives is based entirely on the value of our shares and the Company’s financial and operational performance. Due to the strong alignment between pay and performance over the last three years, our CEO’s total realizable pay is over 24% lower than the values disclosed in the SCT for 2017 through 2019. The graphic to the right visually demonstrates that our stock performance is highly aligned with CEO pay.



Compensation Program Highlights

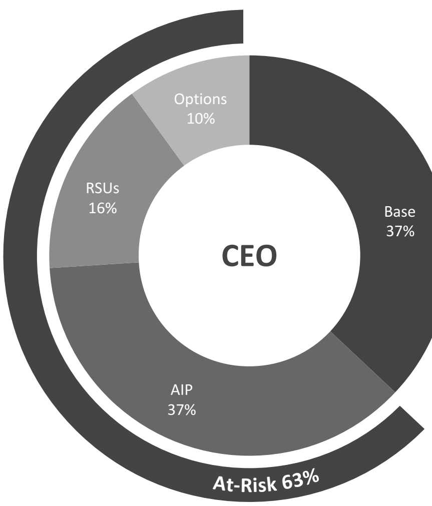
The Compensation Committee has structured our executive compensation program to ensure that our NEOs are compensated in a manner consistent with stockholder interests, competitive pay practices and applicable requirements of regulatory bodies. The following are important features of the design and operation of our executive compensation program:

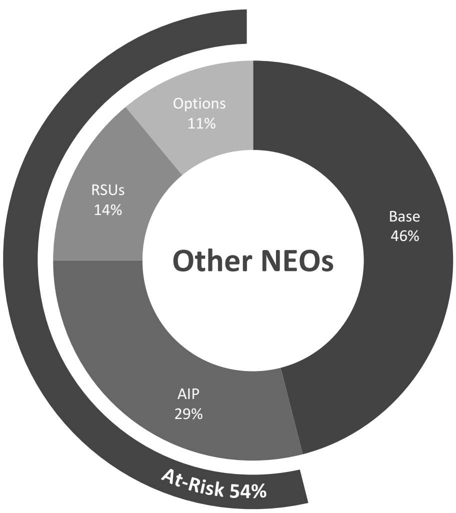
Element	Performance Period	Objective	Performance Measured/Rewarded
Base Salary	Annual	Recognizes an individual’s role and responsibilities and serves as an important retention vehicle	• Reviewed annually and set based on market competitiveness, individual performance and internal equity considerations
Annual Bonus	Annual	Rewards achievement of annual financial objectives and individual performance goals As the Company was profitable in FY 2019, a portion of the Corporate Financial Performance bonus was paid (unlike FY 2018.)	• Corporate Financial Performance • Individual Performance Goals
Time-based Stock Options	Long-Term	Supports the achievement of strong stock price growth and only provides value when the stock price appreciates	• Options and RSUs vest annually over four years
Time-based RSUs	Long-Term	Aligns the interests of management and stockholders and serves as an important retention vehicle	
Performance-based Stock Options	Long-Term	Aligns the interests of management and stockholders by encouraging sustained stock price appreciation	• Granted to Mr. Blonigan in 2019, PSOs vest on achievement of challenging stock price hurdles, set between 25% and 75% above grant date stock price, with a 4-year performance period running through the end of 2023. Two of the 4 goals have been satisfied, and 50% of the PSOs have been earned to date.

Element	Performance Period	Objective	Performance Measured/Rewarded
Performance-based RSUs	Long-Term	Aligns the interests of management and stockholders, rewarding key contributors for significant stock price appreciation and the creation of stockholder value	• Granted to Messrs. Blonigan and Cho in 2016, PRSUs vest on achievement of challenging stock price hurdles, set between 81% and 240% above grant date stock price, with a 5-year performance period through the end of 2020. The last tranche is currently unvested and outstanding. • The Compensation Committee is considering granting PRSUs for all NEOs in 2020.

2019 Target Pay Mix

Our executive compensation program is predominantly performance-based. As an executive's ability to impact operational performance increases, so does the proportion of his or her at-risk compensation. Target long-term incentive compensation grows proportionately as job responsibilities increase, which encourages our officers to focus on the Company's long-term success and aligns with the long-term interests of our stockholders. The graphics below illustrate the mix of fixed, annual and long-term target incentive compensation we provided to our CEO and other NEOs for 2019:





Compensation Governance

The Compensation Committee regularly reviews and incorporates best practices in executive compensation to competitively pay our executives while ensuring alignment of management and stockholder interests. Some highlights include:

- Pay-for-performance philosophy and culture
- Compensation mix of base salary, short-term and long-term incentives provides a variety of time horizons to balance our near-term and long-term strategic goals
- Anti-hedging policies
- Responsible use of shares under our long-term incentive program
- No supplemental executive retirement plans
- No perquisites

Say on Pay Vote

At our 2019 Annual Meeting of Stockholders, 70% of the votes cast by our stockholders supported our advisory vote on executive compensation (the "say-on-pay") proposal. Although the proposal received higher-than-majority support, the Company and the Compensation Committee were disappointed with these results. The Compensation Committee considered these vote results when assessing whether there was a need for modification or enhancement of our executive compensation program. While the Company and the Compensation Committee generally believe that our existing executive compensation program properly encourages and rewards the achievement of financial results that promote long-term stockholder value creation and is appropriate for a company of our size and in our industry, they have nevertheless taken several meaningful steps toward addressing the most common concerns expressed by our stockholders and the proxy advisory firms, as summarized in the table below.

We conduct an ongoing stockholder outreach program to maintain an open and regular dialogue with our institutional stockholders to understand their views and concerns regarding our executive compensation program. In mid-2019, we invited our top 20 institutional stockholders, representing nearly two-thirds of our outstanding shares to discuss their views. As a result, we engaged in discussions with 10 institutional stockholders, representing nearly 43% of our outstanding shares to listen to their views with respect to our executive compensation program and disclosures. Topics discussed with stockholders included the level of CEO compensation, our compensation disclosure, performance-based vesting criteria and metrics, and board composition. The participants of our stockholder outreach team consist of our CFO, our Investor Relations Consultant and the Chairman of our Board of Directors. In January and February 2020 the CFO performed a second round of stockholder outreach and engaged in discussions with 18 institutional stockholders, representing nearly 60% of our outstanding shares. The Company and the Compensation Committee intend to continue to expand this outreach program by increasing the frequency of its outreach efforts.

Recent Actions Taken Based on Stockholder and Proxy Advisor Feedback

The following table summarizes various concerns that have been expressed by stockholders and proxy advisors and how we have addressed the issues:

What We Heard	How We Have Responded
• ***CEO pay and performance were not aligned*** The majority of investors surveyed had no overall issues with the CEO and NEO pay. One third of those same investors wanted to see some form of performance equity grants	• A portion of the CEO's equity grant was issued in PSOs further strengthening the tie between compensation and performance, and incentivizing and rewarding significant stock growth.
• ***CEO total pay level*** The majority of investors surveyed had no overall issues with level of CEO pay.	• No salary increase was approved for our CEO in 2019.
• ***Additional emphasis on performance-based equity awards was warranted*** One third of investors surveyed wanted to see some form of performance equity grants.	• A portion of the CEO's equity grant was issued in PSOs, as noted above. • The Compensation Committee is considering granting PRSUs for all NEOs in 2020.
• ***Importance of stockholder engagement*** The majority of investors surveyed commented that stockholder engagement was important to them and they appreciated our reaching out to them for their input.	• We performed two rounds of shareholder outreach in the 2019 / 2020 timeframe.
• ***Importance of Board diversity***	• We added two women as board members in 2019.

Executive Compensation Philosophy and Objectives

Our compensation structure is designed to attract, retain, motivate, and reward high-performing executives. The guiding principles of our executive compensation plan are as follows:

- Provide a total compensation opportunity that is competitive with our peer group, but that also takes into account the need to compete for talent with much larger equipment and imaging companies.

- Align compensation with the Company's performance by:
  - Providing a significant portion of total compensation in the form of a performance-based annual bonus dependent on each executive's performance relative to predetermined financial and other strategic objectives set at the beginning of each fiscal year.
  - Providing long-term, significant equity incentives, typically in the form of a combination of stock options, time-based RSUs, and from time to time performance-based RSUs, in order to retain those individuals with the leadership abilities necessary for increasing long-term stockholder value while aligning the interests of our NEOs with those of our long-term stockholders. In 2019 we introduced a performance-based stock option program for our CEO.
  - Setting challenging performance goals for our NEOs and providing a short-term incentive through an incentive compensation plan that is based upon achievement of these goals.
- Increase the portion of total compensation based on performance-based annual bonuses and stock-based awards relative to base salary with increasing executive responsibility level.
- Align each executive's goals with those of other executives to encourage a team approach to problem solving.
- Provide clear guidelines for each compensation element relative to market practices (base salary, performance-based annual incentives and annual equity grants), while allowing the Compensation Committee flexibility to make final decisions based on management recommendations (other than decisions for the CEO, which are made by the independent members of the Board), and other factors such as performance, experience, contribution to business success and retention needs.

Compensation Determination Process

Role of the Compensation Committee

The Compensation Committee oversees, reviews and approves the compensation and benefit policies, plans and programs for the entire Company, including our NEOs. The Compensation Committee develops goals and objectives for the CEO and reviews his performance relative to his established goals and objectives. The Compensation Committee recommended the principal elements of Mr. Blonigan's annual compensation as CEO to the Board for approval. The Compensation Committee reviewed with Mr. Blonigan and approved the principal elements of compensation for the NEOs (other than Mr. Blonigan). The Compensation Committee also reviewed with Mr. Blonigan and approved merit increases, as well as bonuses and equity grants for non-NEO employees. The Compensation Committee also annually reviews the compensation of the members of the Board and recommends any changes to the Board. Final approval of compensation for Mr. Blonigan and the members of the Board was given by the independent members of the Board in executive session. The Compensation Committee also reviews and approves executive succession planning, incentive compensation plans, and equity compensation plans.

Role of the CEO

During 2019, Mr. Blonigan provided recommendations to the Compensation Committee with respect to base salary amounts, target bonus percentages, bonus payments, and stock-based awards for each NEO (other than himself). These compensation recommendations were based on market data reviewed by the Compensation Committee and a review by Mr. Blonigan of each executive officer's overall performance and contribution to the Company during the prior year. While the Compensation Committee considered the recommendations of Mr. Blonigan with respect to these elements of compensation, the Compensation Committee independently evaluated the recommendations and made all final compensation decisions. Mr. Blonigan did not make any recommendations as to his own compensation and such decisions are made solely by the independent members of the Board (without Mr. Blonigan present), after recommendations were made to the Board by the Compensation Committee.

Role of Our Independent Advisor

The Compensation Committee retained Radford to assist it in evaluating 2019 executive compensation programs and to provide advice and recommendations on the amount and form of executive compensation, and the allocation of compensation across the compensation components described below. The instructions provided to Radford included assessing target compensation levels for our executives relative to market practices and evaluating the overall design of our executive compensation program. From time to time, at the Compensation Committee's request, Radford attended Compensation Committee meetings. Radford reported directly to the Compensation Committee and not to management. The Compensation Committee assessed the independence of Radford pursuant to SEC rules and concluded that the work of Radford has not raised any conflict of interest.

Use of a Peer Group

Executive compensation data was drawn from the Radford Executive Benchmark Survey for companies in the semiconductor equipment, imaging, electronic equipment and instruments industries, that design and manufacture equipment related to the manufacturing process of technology products, that have 3-year average revenues generally under $300 million and market capitalization between $60 million and $500 million and from publicly available proxy filings for the peer companies identified below (the "Peer Companies"). In the case of the data from the proxy filings of the Peer Companies, only data for the CEO and CFO positions was obtained, as these are the only two positions reported with sufficient frequency among the Peer Companies to draw meaningful conclusions on competitive pay. The market compensation levels for comparable positions were examined by Radford and the Compensation Committee as part of the process to determine overall program design, base salary, target incentives and annual stock-based awards, including the total equity pool for allocation to all employees.

The Peer Companies we used to evaluate market compensation positioning for executives in making 2019 compensation decisions were selected in December 2018 based on the selection criteria discussed above, which the Compensation Committee deemed relevant at that time, and resulted in the removal of four companies through acquisition and four additions. As a result, the 2019 Peer Companies include the following companies:

- Adesto Technologies Corporation
- Amtech Systems, Inc. *
- AXT Inc. *
- Clearfield, Inc. *
- CyberOptics Corporation *
- DSP Group Inc.
- eMagin Corporation *
- EMCORE Corporation *
- Immersion Corporation *
- In TEST Corporation *
- Kopin Corporation *
- Maxwell Technologies
- Nanometrics Inc. *
- NeoPhotonics Corporation *
- Park Electrochemical Corp.
- Perceptron. *
- Pixelworks Inc. *
- Rudolph Technologies, Inc. *

* Included in the 2018 peer group

In early 2019, the base salary, total target cash compensation (base salary plus performance-based annual cash bonus) and total target compensation (including stock-based awards) for each of Intevac's five most senior executives, including our NEOs, were compared to market pay levels for executives with similar levels of responsibility.

In setting compensation for our executive officers, including our NEOs, the Compensation Committee uses competitive compensation data from an annual total compensation study of selected peer companies and other relevant survey sources to inform its decisions about overall compensation opportunities and specific compensation elements. Additionally, the Compensation Committee uses multiple reference points when establishing targeted compensation levels. The Compensation Committee applies judgment and discretion in establishing targeted pay levels, considering not only competitive market data, but also factors such as company, business unit and individual performance, scope of responsibility, critical needs and skill sets, experience, leadership potential and succession planning.

For 2019, the Compensation Committee concluded that Intevac's executive compensation:

- Was appropriate considering the available competitive data, the Company's improving financial performance, and the Company's need to retain key employees; and
- Continued to provide strong incentives to management to optimize Intevac's financial performance in each year and over time.

The Compensation Committee believes that the Company's program to compensate NEOs and other employees is consistent with the intent and design of the Company's variable pay programs, which link actual pay directly to improved operating results, and result in reduced compensation in years in which financial results do not meet expectations.

Elements of Executive Compensation

The primary components of executive compensation are:

- Base salary;
- Performance-based annual cash bonus;
- Annual grants of long-term, equity-based incentives, which in 2019, consisted of time-based stock options, performance-based stock options (PSOs) and time-based RSUs; and
- Performance-based RSUs (PRSUs), which have been granted to NEOs in the past.

We allocate total potential and target compensation among these components based on the goals of our compensation program, including the need to offer competitive compensation and our focus on paying for performance. We also provide our executives the same benefits and perquisites that we offer our other U.S. employees. These standard employee benefits include participation in our 401(k) plan and employee stock purchase plan, and health and welfare and life insurance benefits, each with the same terms and conditions available to employees.

Base Salary

We provide our NEOs and other employees with base salary to compensate them for services rendered during the fiscal year. The purpose of base salary is to reward effective fulfillment of the assigned job responsibilities, and to reflect the position's relative value to the Company and competitiveness of the executive job market.

The Compensation Committee approves any changes to base salaries on an annual basis. To determine any annual changes to base salary; the committee utilizes the competitive market data provided by our independent compensation consultant in addition to an assessment of each executive's responsibilities and performance against goals and objectives. These factors are evaluated at the Compensation Committee's discretion.

2019 Base Salaries

2019 base salaries for the NEOs were approved by the Compensation Committee (with the exception of Mr. Blonigan, whose base salary was approved by the independent members of the Board, upon recommendation of the Compensation Committee). The base salaries of Mr. Blonigan and Mr. Cho were not changed for 2019. Mr. Moniz received a salary increase of 3% and Mr. Justyn received a salary increase of 5%.

In April 2018, consistent with our then corporate-wide cost reduction efforts, our Compensation Committee implemented temporary salary reductions for our NEOs, which reduced base salaries by 10% effective April 7, 2018. These salary reductions were as a temporary measure in light of then-current financial conditions, and by their terms, lapsed on December 31, 2018. After consideration following the completion of our fiscal 2018, the Compensation Committee determined not to re-instate these temporary salary reductions for 2019, in light of improved Company financial conditions and the improved financial outlook for fiscal 2019.

The annual base salaries for the NEOs in 2018 and 2019, were as follows:

Executive	2018	2019
Wendell Blonigan	$550,000	$550,000
James Moniz	$330,000	$340,000
Jay Cho	$310,000	$310,000
Timothy Justyn	$285,000	$300,000

Performance-based Annual Incentives

We provide the opportunity to earn performance-based annual bonuses to our NEOs and other management employees under our AIP. The objective of the AIP is to align our executive compensation with actual short-term business performance and with our strategic business objectives.

The AIP consists of two performance measures:

- **Corporate Financial Performance**, which is based on Intevac's financial performance (profitability); and
- **Individual Performance**, which is based on each NEO's performance against goals and objectives set at the beginning of the year.

Having an incentive program which is based half on individual performance is important in order to provide our NEOs with incentives to achieve goals and objectives which are specific to their individual functional areas and to maximize the Company's value as well as for retention considerations, while having half based on Company profitability focuses the NEOs on the common goal of continuing to drive overall Company performance.

Annual incentives can be paid in cash or time-based RSUs at the discretion of the Compensation Committee. In early 2019, the Compensation Committee determined that the 2019 AIP would be paid entirely in cash.

Target Bonus Opportunities

Each participating NEO is assigned an annual incentive opportunity, computed by multiplying each executive's base salary times his or her Target Bonus Percentage. Based on the program set up by the Compensation Committee for 2019, the NEO's Target Bonus is half based on individual performance and half based on Company financial performance. For 2019 AIP participants, payout under the Individual Performance component was capped at a maximum of one times half of the Target Bonus attributed to that component and payout under the Corporate Financial Performance was capped at a maximum of two times half of the Target Bonus. The total bonus payout is therefore capped at a maximum of 150% times the Target Bonus for 2019.

Target Bonus Percentages are determined based on competitive market data, internal equity considerations, and the degree of difficulty associated with achieving performance levels. Each factor is evaluated by the Compensation Committee based on data and input provided by management as well as our independent compensation consultant.

For 2019, Target Bonus Percentages for our NEOs were not increased from prior year opportunities (as a percentage of base salary):

Executive	Target AIP (as % of base salary)	Target AIP ($)
Wendell Blonigan	100%	$550,000
James Moniz	65%	$221,000
Jay Cho	60%	$186,000
Timothy Justyn	60%	$180,000

Financial Performance Goals

In January 2019, the Compensation Committee established a bonus pool equal to 5.0% of Proforma Pretax Income to fund the 2019 Corporate Financial Performance bonus component. Proforma Pretax Income is equal to pretax income and adding back stock compensation expense and accruals for the AIP bonus and employee profit sharing.

Calculation of Proforma Pretax Income	2019 Annual Operating Plan ($ millions)	2019 Actual ($ millions)
Net income	$ 4.0	$ 1.1
Income tax (benefit)	2.9	3.4
Pre-tax income (loss)	6.9	4.5
Addback		
Bonus accruals	2.2	2.1
Profit sharing accruals	0.9	0.7
Stock compensation expense	3.0	3.2
Proforma pretax income	**$13.0**	**$10.5**

Had the 2019 Annual Operating Plan (AOP) been achieved, the bonus pool would have funded the Corporate Financial Performance Bonus at 39% of target. At the actual level of achievement, the bonus pool funded the Corporate Financial Performance Bonus at 27% of target.

Performance Level	Proforma Pre-Tax ($ millions)	Award Percentage
Maximum	$76.9	200%
Target	$38.4	100%
AOP	$13.0	39%
Actual	$10.5	27%

Individual Performance Goals

Each NEO received a comprehensive set of individual performance goals for 2019. These goals were established at the beginning of the fiscal year and approved by the Compensation Committee. The individual performance goals are considered aggressive and deemed difficult to achieve, and if achieved at 100% would have exceeded the Company's operational expectations for the measurement period.

The following tables show 2019 individual performance goals and their relative weightings for each NEO:

Wendell Blonigan, CEO

Fiscal 2019 Goals	Weighting	Achieved
• **Corporate Financial Plan** Achieve quarterly objectives related to Company financial performance in orders, revenue and operating profitability 1. Orders: $92.8 M; goal of $88.8 M 2. Consolidated revenue: $108.9 M *; goal of $124.7 M 3. Consolidated operating income: $3.9 M *; goal of $6.2 M	20%	11%
• **Balance Sheet Management** Achieve objectives related to balance sheet management	5%	5%
• **Corporate Management** Achieve objectives related to corporate management including financial controls, investor relations, hiring and board of director communications	10%	10%
• **Thin-film Equipment Business Operations** Achieve objectives related to TFE new product plans including display cover panel, solar implant and semiconductor fan-out	35%	28%
• **Photonics Business Operations** Achieve objectives related to the strategic direction, growth and profitability Photonics	25%	22%
• **HR Safety and Compliance** Achieve objectives related to employee engagement and safety	5%	4%
	Final Score	***80%***

James Moniz, CFO

Fiscal 2019 Goals	Weighting	Achieved
• **Corporate Financial Plan** Achieve quarterly objectives related to Company financial performance in orders, revenue and operating profitability 1. Orders: $92.8 M; goal of $88.8 M 2. Consolidated revenue: $108.9 M *; goal of $124.7 M 3. Consolidated operating income: $3.9 M *; goal of $6.2 M	20%	8%
• **Business FY 2019 Financial Targets** Achieve objectives related to corporate spending	20%	20%
• **Management of Financial and IT Operations** Achieve objectives related to internal controls, working capital management, global information systems, and investor relations	25%	19%
• **Management of Financial Performance of the Company, Internally and Externally** Achieve objectives related to financial planning, forecasting and internal and external reporting	30%	30%
• **Safety, Compliance, Employee Development** Achieve strategic initiatives including organizational and leadership development, employee engagement, quality, and safety	5%	5%
	Final Score	***82%***

Jay Cho, TFE GM

Fiscal 2019 Goals	Weighting	Achieved
• **Corporate Financial Plan** Achieve quarterly objectives related to Company financial performance in orders, revenue and operating profitability 1. Orders: $92.8 M; goal of $88.8 M 2. Consolidated revenue: $108.9 M *; goal of $124.7 M * 3. Consolidated operating income: $3.9 M *; goal of $6.2 M	20%	8%
• **Business / Organizational Unit FY 2019 Financial Targets** Achieve TFE business objectives in orders, revenue and profits 1. TFE orders: $30.3 M; goal of $59.2 M 2. TFE revenue: $73.7 M *; goal of $89.5 M 3. TFE operating income: $1.7 M *; goal of $6.7 M	20%	3%
• **HDD / New Business Development** Achieve objectives related to hard disk drive equipment, solar implant and semiconductor fan-out products	10%	10%
• **Vertex Business Development** Achieve objectives related to display cover panel business including orders and product development	40%	34%
• **Organizational Development** Achieve objectives related to organizational and leadership development	5%	4%
• **Safety, Compliance, Employee Development** Achieve strategic initiatives including employee engagement, quality, and safety	5%	3%
	Final Score	***62%***

Timothy Justyn, Photonics GM

Fiscal 2019 Goals	Weighting	Achieved
• **Corporate Financial Plan** Achieve quarterly objectives related to Company financial performance in orders, revenue and operating profitability 1. Orders: $92.8 M; goal of $88.8 M 2. Consolidated revenue: $108.9 M *; goal of $124.7 M 3. Consolidated operating income: $3.9 M *; goal of $6.2 M	20%	8%
• **Business / Organizational Unit FY 2019 Financial Targets** Achieve objectives related to Photonics financial performance including orders, revenue and operating profitability 1. Photonics orders: $62.5 M; goal of $29.5 M 2. Photonics revenue: $35.2 M *; goal of $35.2 M 3. Photonics operating income: $6.4 M *; goal of $3.5 M	20%	18%
• **New Business Development** Achieve objectives related to new business development and market penetration	10%	8%
• **Funded Development Programs** Achieve objectives related to funded research and development programs	35%	23%
• **Organizational Development** Achieve objectives related to organizational and leadership development	10%	8%
• **Safety, Compliance, Employee Development** Achieve strategic initiatives including employee engagement, quality, and safety	5%	5%
	Final Score	***70%***

* Actual results for revenue and operating income are reported on a U.S. GAAP basis and are set forth in the Consolidated Statements of Income and under Note 14 of the notes to Consolidated Financial Statements included in our Annual Report on Form 10-K for fiscal 2019 filed with the SEC on February 12, 2020.

2019 Performance Against Individual Goals

In order to determine the payout associated with the Individual Performance measures, the Compensation Committee analyzed each NEO's performance versus their individual goals. The specific performance versus objectives for each of the goals are not disclosed as the disclosure of these goals would potentially reveal confidential information regarding our business strategy and operations, which could result in substantial competitive harm.

The NEOs' performance against each of the 2019 Goals was evaluated at the end of the year by the CEO for all NEOs other than himself. The performance and evaluation were then reviewed and approved by the Compensation Committee. The Compensation Committee evaluated the CEO's performance which was then reviewed and approved by the independent members of the Board.

2019 earned incentives were as follows:

	Opportunity		Actual	
Executive	**Target AIP (as % of base salary)**	**Target AIP ($)**	**2019 Earned Award**	**As a % of Target**
Wendell Blonigan	100%	$550,000	$313,012	56.9%
James Moniz	65%	$221,000	$128,922	58.3%
Jay Cho	60%	$186,000	$ 82,037	44.1%
Timothy Justyn	60%	$180,000	$ 89,638	49.8%

Long-Term Incentives

We grant equity-based compensation to our NEOs to align their interests with the long-term interests of our stockholders and to provide our executives with incentives to manage Intevac from the perspective of an owner with an equity stake in the business.

In 2019, we utilized three incentive vehicles:

- Stock options
- PSOs; and
- Time-based RSUs

For 2019 annual grants, the Company based the number of options and RSUs on market data with a ratio of options to RSUs of approximately 2:1, as the Company believes that this ratio represents the approximate equivalent value of one RSU award to one share underlying a stock option.

Stock options enable our executives to acquire shares of our common stock at a fixed price per share (the closing market price on the grant date), while time-based RSUs help promote retention of key leadership talent. The stock options granted by the Company have a 7-year term, subject to earlier termination. The 2019 annual renewal grants for both stock options and RSUs for the NEOs vest in four equal annual installments, except that half of Mr. Blonigan's 2019 annual renewal option was instead subject to performance-based vesting, as described below.

Individual Grant Determinations

Annually, the Compensation Committee approves a pool of renewal stock-based awards to be granted to all grant recipients taking into consideration the total dilutive impact of all shares to be granted, the burn rate (the total number of shares to be granted as a percentage of shares outstanding), and projected compensation expense related to employee stock-based awards. Each year, the Compensation Committee sets guidelines for the size and mix of each grant to each NEO and other exempt employees. Actual stock-based award grants to the NEOs are made within the ranges set forth in these guidelines, based on the factors discussed below. For the NEOs, the guidelines reflect each NEO's position within the Company and are set at a level that the Compensation Committee considers appropriate to create a meaningful opportunity for reward predicated on increasing stockholder value, and appropriate to meet our retention goals. In determining the appropriate grant levels, the Compensation Committee reviews competitive market practices, taking into consideration both the potential value to individual participants compared to executives at other companies with similar responsibilities. The Compensation Committee also evaluated the mix of equity awards to be granted.

Actual 2019 annual renewal grants to the NEOs, except for Mr. Blonigan, were proposed by Mr. Blonigan and reviewed and approved at a Compensation Committee meeting. In determining the number of option shares and time-based RSUs to grant to each individual, including Mr. Blonigan, the Compensation Committee took into account factors such as each executive's recent performance, level of responsibility, job assignment, the competitive climate, internal equity considerations, market data, and retention considerations. Each of these factors was considered by the Compensation Committee, in its judgment, and no formal weighting of these factors was used. Grant levels to Mr. Moniz, were higher in 2019 than 2018 as a result of a benchmarking study against other CFOs in the peer group companies.

The number of stock options, PSOs and RSUs granted to the NEOs in 2019 as long-term equity grants is shown in the table below.

	2018		2019		
NEO	**Stock Options (#)**	**Restricted Stock (#)**	**Stock Options (#)**	**Performance Stock Options (#)**	**Restricted Stock (#)**
Wendell Blonigan	75,000	40,000	37,500	37,500	40,000
James Moniz	30,000	15,000	40,000	—	20,000
Jay Cho	30,000	15,000	30,000	—	15,000
Timothy Justyn	30,000	15,000	30,000	—	15,000

The grant date fair value of stock options, PSOs and RSUs granted to the NEOs in 2019 as long-term equity grants is shown in the table below.

	2018		2019		
NEO	Stock Options ($)	Restricted Stock ($)	Stock Options ($)	Performance Stock Options ($)	Restricted Stock ($)
Wendell Blonigan	147,182	188,000	84,607	65,813	227,200
James Moniz	58,873	70,500	90,248	—	113,600
Jay Cho	58,873	70,500	67,686	—	85,200
Timothy Justyn	74,658	92,200	67,686	—	85,200

In 2019, Mr. Blonigan's annual renewal grant was comprised of a mix of time-vesting options, time-vesting RSUs and PSOs. In 2019 one half (37,500 shares) of the CEO's annual renewal stock option grant was made in PSOs. The PSOs vest only upon the attainment of rigorous stock price performance goals over a four-year performance period. Under the terms of the arrangement:

Vesting Schedule	Closing Share Price Performance Criteria (30 Consecutive Trading Day Average Closing Share Price)	Required Share Price Improvement (as Measured from the June 7, 2019 Closing Price of $4.82)
The PSOs become exercisable as follows if the applicable share price performance criteria is met at any time during the performance period as follows *:		
25% of PSOs (became exercisable on December 13, 2019)	$6.03 or higher	25%
25% of PSOs (became exercisable on January 8, 2020)	$6.51 or higher	35%
25% of PSOs	$7.95 or higher	65%
25% of PSOs	$8.44 or higher	75%

* In addition, in order to vest, Mr. Blonigan must remain in service to Intevac through the applicable performance achievement date.

In 2016, Mr. Blonigan and Mr. Cho were granted performance-based RSUs covering 100,000 and 25,000 shares, respectively. These awards are scheduled to vest based on achievement of challenging stock price hurdles, set between 81% and 240% above grant date stock price, over the performance period running from the March 2016 grant date through December 31, 2020, subject to continued service with Intevac. 75% of each award has vested, and the remaining 25% of each award will vest if our closing stock price is $15.00 or higher for three consecutive trading days. Although these awards were not granted in 2019, the unvested portion of each RSU continued to provide performance incentives due to the remaining challenging price hurdle, and retention benefits due to the continued service requirement.

Additional Policies and Practices

Ownership Guidelines

We do not currently have a stock ownership policy for our executive officers. However, all of our NEOs own shares of the Company's common stock or vested, but unexercised, equity awards. Mr. Blonigan as a member of the Company's Board is subject to the director stock ownership guidelines of the Company.

Anti-Hedging Policies

The Company has an insider trading policy which, among other things, prohibits insiders from short sales of Intevac common stock.

Compensation Recovery Policy

Under the AIP, if it is determined after a bonus is paid under the plan that the individual and corporate performance upon which the bonus award was based was fraudulently represented, the Company has the right to require the return of the bonus. Outside of this provision, at this time, we have not implemented fraudulent misrepresentation policies or a policy regarding retroactive adjustments to any cash or equity-based incentive compensation paid to our executive officers and other employees where the payments were predicated upon the achievement of financial results that were subsequently the subject of a financial restatement.

Severance and Change in Control Arrangements

The Company has a severance agreement with Mr. Blonigan. Benefits under the severance agreement are described under *"Potential Payments Upon Termination of Employment or Change in Control"* beginning on page 48. The Company does not intend to enter into new severance agreements.

The Company has change in control employment agreements with Mr. Cho, Mr. Moniz and Mr. Justyn. Benefits under the change in control employment agreements, as well as an offer letter with Mr. Blonigan that provides for certain acceleration of vesting of his equity awards in connection with a change in control of the Company, are described under *"Potential Payments Upon Termination of Employment or Change in Control"* beginning on page 48. These agreements were entered into with Messrs. Blonigan, Moniz and Cho in connection with the negotiation of their employment agreements in order to attract the executives to the Company and with Mr. Justyn in connection with his promotion to Executive Vice President.

Impact of Accounting and Tax Treatment

The Compensation Committee considers the deductibility of executive compensation under Section 162(m) of the Code in designing, establishing and implementing our executive compensation policies and practices. Section 162(m) generally prohibits us from deducting any compensation over $1 million per taxable year paid to certain of our named executive officers. Under tax laws in effect prior to January 1, 2018, compensation treated as "performance-based compensation" within the meaning of Section 162(m) of the Code was not counted towards the $1 million limit. The Tax Cuts and Jobs Act (the "Tax Act") among other changes, repealed the exception from the deduction limit under Section 162(m) for performance-based compensation effective for taxable years beginning after December 31, 2017, such that compensation paid to our covered executive officers in excess of $1 million will not be deductible unless it qualifies for transition relief applicable to certain arrangements in place as of November 2, 2017 that are not materially modified after that date. However, because of ambiguities and uncertainties as to the application and interpretation of Section 162(m) as revised by the Tax Act, including the uncertain scope of the transition relief adopted in connection with repealing Section 162(m)'s performance-based compensation exception, no assurance can be given that previously granted compensation intended to satisfy the requirements for performance-based compensation will in fact qualify for such exception. The Compensation Committee may administer any awards granted prior to November 2, 2017 which qualify as performance-based compensation under Section 162(m), as amended by the Tax Act, in accordance with the transition rules applicable to binding contracts in effect on November 2, 2017 and will have the sole discretion to revise compensation arrangements to conform with the Tax Act and our Compensation Committee's administrative practices.

The Compensation Committee balanced the desirability of having compensation qualify for deductibility with our need to maintain flexibility in compensating executive officers in a manner designed to promote our goals. As a result, the Compensation Committee has not adopted a policy that all compensation must be deductible.

In addition to considering the tax consequences, the Compensation Committee considers the accounting consequences of its decisions, including the impact of expenses being recognized in connection with equity-based awards, in determining the size and form of different equity-based awards.

2019 Summary Compensation Table

The following table presents information concerning the total compensation of Intevac's President and CEO, the two most highly compensated executive officers at the end of the last fiscal year, as well as Mr. Justyn (the "NEOs") for services rendered to Intevac in all capacities for the fiscal years ended December 28, 2019 (fiscal 2019) and December 29, 2018 (fiscal 2018). Because the Company is a SRC, only Messrs. Blonigan, Moniz and Justyn are currently NEOs within the meaning of SEC rules and regulations. However, we have elected to provide voluntary disclosure as to Mr. Cho's compensation in order to provide our stockholders with additional information regarding the Company's executive compensation practices. Throughout this proxy statement, the use of the term NEO should be understood to include our three named executive officers (within the meaning of SEC rules and regulations) as well as Mr. Cho.

Name and Principal Position	Year	Salary ($)	Stock Awards ($) (1	Option Awards ($) (1)	Non-Equity Incentive Plan Compensation ($) (2)	All Other Compensation ($) (3)	Total ($)
Wendell Blonigan,	2019	547,899	227,200	150,420	313,012	2,000	1,240,531
President and CEO	2018	511,941	188,000	147,182	137,504	2,000	986,627
James Moniz,	2019	328,209	113,600	90,248	128,922	2,000	662,979
EVP and CFO	2018	303,747	70,500	58,873	84,731	2,000	519,851
Jay Cho,	2019	297,246	85,200	67,686	82,037	2,000	534,169
EVP and GM, TFE	2018	288,547	70,500	58,873	46,501	2,000	466,421
Timothy Justyn,	2019	294,880	85,200	67,686	89,638	2,000	539,404
EVP and GM, Photonics	2018	259,891	92,200	74,658	59,851	2,000	488,600

(1) Amounts shown do not reflect compensation actually received by the NEO. Instead, the amounts shown are the grant date fair value of time-based RSUs and stock option awards granted in fiscal 2019 and fiscal 2018 for all NEOs as determined pursuant to ASC 718. The assumptions used to calculate the value of stock and option awards are set forth under Note 3 of the notes to Consolidated Financial Statements included in our Annual Report on Form 10-K for fiscal 2019 filed with the SEC on February 12, 2020.

(2) The amounts shown in this column represent the value of cash bonuses earned during the year indicated and paid in the first quarter of the subsequent year.

(3) Amounts in 2019 and 2018 include matching contributions we made under our tax-qualified 401(k) plan, which provides for broad-based employee participation.

Outstanding Equity Awards at 2019 Fiscal Year-End

The following table shows all outstanding option and stock awards held by each of the NEOs at the end of fiscal 2019.

	Option Awards (1)					Stock Awards (1)			
Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ($) (2)	Equity Incentive Plan Awards: Number of Unearned Shares, Units, or Other Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units, or Other Rights That Have Not Vested ($)(2)
Wendell Blonigan	145,000	—	—	6.55	07/15/2020	—	—	—	—
	60,000	—	—	7.09	05/15/2021	—	—	—	—
	75,000	—	—	5.62	06/04/2022	—	—	—	—
	56,250	18,750(3)	—	4.80	05/19/2023	10,000(4)	67,100	—	—
	37,500	37,500(5)	—	12.75	05/18/2024	20,000(6)	134,200	—	—
	18,750	56,250(7)	—	4.70	05/17/2025	30,000(8)	201,300	—	—
	—	37,500(9)	—	5.68	05/16/2026	40,000(10)	268,400	—	—
	9,375	28,125(11)	—	4.82	06/07/2026	—	—	25,000(12)	167,750
James Moniz	50,000	—		7.22	11/20/2021	—	—		
	30,000	—	—	5.42	05/21/2022	—	—	—	—
	22,500	7,500(13)	—	4.80	05/19/2023	3,750(14)	25,163	—	—
	14,000	14,000(15)	—	12.75	05/18/2024	7,000(16)	46,970	—	—
	7,500	22,500(17)	—	4.70	05/17/2025	11,250(18)	75,488	—	—
	—	40,000(19)	—	5.68	05/16/2026	20,000(20)	134,200	—	—
Jay Cho	45,000	—		8.50	01/16/2021	—	—		
	30,000	—	—	5.42	05/21/2022	—	—	—	—
	22,500	7,500(13)	—	4.80	05/19/2023	3,750(14)	25,163	—	—
	14,000	14,000(15)	—	12.75	05/18/2024	7,000(16)	46,970	—	—
	7,500	22,500(17)	—	4.70	05/17/2025	11,250(18)	75,488	—	—
	—	30,000(21)	—	5.68	05/16/2026	15,000(22)	100,650	—	—
	—	—	—	—	—	—	—	6,250(23)	41,938
Timothy Justyn	6,000	—	—	4.49	05/09/2020	—	—	—	—
	8,000	—	—	7.09	05/15/2021	—	—	—	—
	16,250	—	—	5.42	05/21/2022	—	—	—	—
	12,188	4,062(24)	—	4.80	05/19/2023	2,031(25)	13,628	—	—
	7,500	7,500(26)	—	12.75	05/18/2024	3,750(27)	25,163	—	—
	7,000	21,000(28)	—	6.25	03/15/2025	10,500(29)	70,455	—	—
	500	1,500(30)	—	4.70	05/17/2025	750(31)	5,033	—	—
	—	30,000(21)	—	5.68	05/16/2026	15,000(22)	100,650	—	—

(1) Reflects options and RSUs granted under the 2012 Equity Incentive Plan.

(2) Reflects the fair value of outstanding stock awards as of December 28, 2019 at the closing market price of $6.71 per share.

(3) Assuming continued employment with Intevac, 18,750 shares will become exercisable on May 19, 2020.

(4) Assuming continued employment with Intevac, 10,000 shares will vest on May 15, 2020.

(5) Assuming continued employment with Intevac, 18,750 shares will become exercisable on May 18 of each of 2020 and 2021.

(6) Assuming continued employment with Intevac, 10,000 shares will vest on May 15 of each of 2020 and 2021.

(7) Assuming continued employment with Intevac, 18,750 shares will become exercisable on May 17 of each of 2020, 2021 and 2022.

(8) Assuming continued employment with Intevac, 10,000 shares will vest on May 15 of each of 2020, 2021 and 2022.

(9) Assuming continued employment with Intevac, 9,375 shares will become exercisable on May 16 of each of 2020, 2021 2022 and 2023.

(10) Assuming continued employment with Intevac, 10,000 shares will vest on May 15 of each of 2020, 2021 2,022 and 2023.

(11) 9,375 shares become exercisable on January 8, 2020. Assuming continued employment with Intevac, 9,375 shares become exercisable on the first day when the 30-day moving average of Intevac's closing stock price is $7.95 or higher; and 9,375 shares become exercisable on the first day when the 30-day moving average of Intevac's closing stock price is $8.44 or higher.

(12) Assuming continued employment with Intevac, 25,000 shares vest when Intevac's closing stock price is $15.00 or higher for three consecutive trading days.

(13) Assuming continued employment with Intevac, 7,500 shares will become exercisable on May 19, 2020.

(14) Assuming continued employment with Intevac, 3,750 shares will vest on May 15, 2020.

(15) Assuming continued employment with Intevac, 7,000 shares will become exercisable on May 18 of each of 2020 and 2021.

(16) Assuming continued employment with Intevac, 3,500 shares will vest on May 15 of each of 2020 and 2021.

(17) Assuming continued employment with Intevac, 7,500 shares will become exercisable on May 17 of each of 2020, 2021 and 2022.

(18) Assuming continued employment with Intevac, 3,750 shares will vest on May 15 of each of 2020, 2021 and 2022.

(19) Assuming continued employment with Intevac, 10,000 shares will become exercisable on May 16 of each of 2020, 2021, 2022 and 2023.

(20) Assuming continued employment with Intevac, 5,000 shares will vest on May 15 of each of 2020, 2021, 2022 and 2023.

(21) Assuming continued employment with Intevac, 7,500 shares will become exercisable on May 16 of each of 2020, 2021, 2022 and 2023.

(22) Assuming continued employment with Intevac, 3,750 shares will vest on May 15 of each of 2020, 2021, 2022 and 2023.

(23) Assuming continued employment with Intevac, 6,250 shares vest when Intevac's closing stock price is $15.00 or higher for three consecutive trading days.

(24) Assuming continued employment with Intevac, 4,062 shares will become exercisable on May 19, 2020.

(25) Assuming continued employment with Intevac, 2,031 shares vest on May 15, 2020.

(26) Assuming continued employment with Intevac, 3,750 shares will become exercisable on May 18 of each of 2020 and 2021.

(27) Assuming continued employment with Intevac, 1,875 shares vest on May 15 of each of 2020 and 2021.

(28) 7,000 shares became exercisable on March 15, 2020. Assuming continued employment with Intevac, 7,000 shares will become exercisable on March 15 of each of 2021 and 2022.

(29) Assuming continued employment with Intevac, 3,500 shares vest on May 15 of each of 2020, 2021 and 2022.

(30) Assuming continued employment with Intevac, 500 shares will become exercisable on May 17 of each of 2020, 2021 and 2022.

(31) Assuming continued employment with Intevac, 250 shares vest on May 15 of each of 2020, 2021 and 2022.

Potential Payments upon Termination or Change in Control

Severance Agreements

The Company entered into a severance agreement with Mr. Blonigan when he was hired in June 2013. The agreement terminates on the termination of Mr. Blonigan's employment with the Company. If the Company terminates Mr. Blonigan's employment for a reason other than cause (as such term is defined in the severance agreement) that also is not due to his death or disability, or if Mr. Blonigan resigns for good reason (as such term is defined in the agreement), Mr. Blonigan will receive as severance from the Company: (i) continuing payments of his base salary in effect on the date of the his termination for twelve months from the date of such termination, plus (ii) continuing payments of $2,000 per month for twelve months from the date of such termination. Additionally, if Mr. Blonigan resigns from the Company for good reason, as a result of the change of control of the Company, he will receive his bonus amount for the fiscal year the change of control occurs, prorated based on time and performance. The receipt of severance under the agreement is contingent upon: (i) Mr. Blonigan signing and not revoking a release of claims in favor of the Company, and (ii) Mr. Blonigan's continued compliance with the terms of his confidentiality agreement entered into with the Company.

Change in Control Agreements

Pursuant to their hiring, the Company entered into a change of control agreement with both Mr. Cho in December 2013 and with Mr. Moniz in October 2014. As per the terms of the agreements, if within twelve months following a change in control (as such term is defined in the change in control agreement), the Company terminates the executive's employment for a reason other than cause (as such term is defined in the change in control agreement) or if the executive resigns for good reason (as such term is defined in the change in control agreement) (each, a "qualifying termination"), the executive will receive severance from the Company in the amount of twelve months of the executive's base salary in effect on the date of the executive's termination, payable at the Company's discretion either in a lump sum or at equal intervals over a period of time not longer than twelve months. In addition, all stock options and restricted stock units held by the executive shall have their vesting fully accelerated. The receipt of severance under the change in control agreement is contingent upon the executive signing and not revoking a release of claims in favor of the Company. Mr. Cho's and Mr. Moniz's change in control agreements expire upon the termination of their employment with the Company.

Pursuant to his promotion to Executive Vice President and General Manager Photonics, the Company entered into a change in control agreement with Mr. Justyn in March 2018. As per the terms of the agreement, if, in the event of a division sale (as such term is defined in the change of control agreement, but generally relating to the sale, including the sale of substantially all of the assets of, the division in which Mr. Justyn works), Mr. Justyn experiences either a no-offer/non-comparable offer termination (as such term is defined in the change of control agreement, but generally meaning he has not been offered a position with the buyer on comparable terms, declines any employment offer by the buyer, and terminates his employment with the Company) or a buyer involuntary termination (as such term is defined in the change of control agreement, but generally meaning that Mr. Justyn's employment with the buyer is terminated without cause or for good reason (each as defined in his change of control agreement), in each case, by the earlier of the 3-month anniversary of the sale of the division, or March 1 of the year following the sale of the division), Mr. Justyn will receive severance from the Company. Such severance from the Company will consist of: (i) continuing payments of his base salary with the Company as in effect immediately prior to the closing date of the division sale (the "division sale closing date") for twelve months from the division sale closing date; (ii) continuing payments of $2,000 per month for twelve months from the division sale closing date; (iii) if Mr. Justyn's annual bonus payment, if any, for an applicable year has not been paid as of the division sale closing date, the Company may choose, in the CEO's sole discretion, to pay Mr. Justyn an amount equal to the annual bonus amount for such year, based on actual performance (but not to exceed 100% of Mr. Justyn's target bonus amount for that year), that Mr. Justyn would have received had he remained an employee of the Company through the date such bonus payments were made, paid in a lump sum at the same time that annual bonuses for that year are paid to other executives at the Company; and (iv) Mr. Justyn's then-outstanding Company equity awards will vest in full, both with respect to time-based Company equity awards and Company equity awards with performance-based vesting. The receipt of severance under the change of control agreement is contingent upon the executive signing and not revoking a release of claims in favor of the Company and satisfying the terms of the change of control agreement and includes a provision for the forfeiture of the severance amounts if Mr. Justyn receives benefits under his change of control agreement but, within twelve months following the division sale closing date, commences or re-commences, as applicable, employment with the buyer.

Excise Tax.

Under each of the Company's severance and change of control agreements in the event the severance payments and other benefits payable to an executive constitute "parachute payments" under Section 280G of the U.S. Internal Revenue Code and would be subject to the applicable excise tax, then the executive's severance benefits will be either (i) delivered in full or (ii) delivered to such lesser extent which would result in no portion of such benefits being subject to the excise tax, whichever results in the receipt by executive on an after-tax basis of the greatest amount of benefits.

Change in Control Acceleration

In the event of a change in control (as defined in Mr. Blonigan's offer letter) Mr. Blonigan will fully vest in and, if applicable, have the right to exercise, all of Mr. Blonigan's then-outstanding Company equity awards and, with respect to Company equity awards with performance-based vesting, all performance goals or other vesting criteria will be deemed achieved at one hundred percent (100%) of target levels and all other terms and conditions met.

As described above, pursuant to their change in control agreements, in the event of a qualifying termination within twelve months after a change in control (as defined in Mr. Cho's and Mr. Moniz's change of control agreements), then, subject to the execution and non-revocation of a release of claims in favor of the Company, Mr. Cho's and Mr. Moniz's then-outstanding Company equity awards will vest in full, both with respect to time-based Company equity awards and Company equity awards with performance-based vesting. Please see above for a description of the treatment of equity awards under Mr. Justyn's Change of Control Agreement.

Estimated Payments Pursuant to Severance and Change in Control Agreements

The following table estimates potential payments upon termination as if our NEOs had terminated on December 28, 2019, in connection with a change in control or other termination covered by the severance and change in control agreements and potential payments relating to the changed vesting schedule of outstanding equity awards under our 2012 Equity Incentive Plan in connection with a change in control. The table reflects termination scenarios covered by the various agreements and the benefits receivable thereunder, as well as under our equity plans. The closing market price per share of our common stock on December 28, 2019 was $6.71.

Name of Executive Officer	Termination Without Cause or Resignation for Good Reason ($)	Change in Control With Qualifying Termination ($)	Change in Control Without Termination ($)
Base Salary			
Wendell Blonigan	550,000	550,000	—
James Moniz	—	340,000	—
Jay Cho	—	310,000	—
Timothy Justyn	—	300,000	—
Annual Cash Incentive			
Wendell Blonigan	—	550,000(1)	—
James Moniz	—	—	—
Jay Cho	—	—	—
Timothy Justyn	—	180,000	—
Health Coverage			
Wendell Blonigan	24,000	24,000	—
James Moniz	—	—	—
Jay Cho	—	—	—
Timothy Justyn	—	24,000	—
Acceleration Of Equity Awards			
Wendell Blonigan	—	1,079,406	1,079,406
James Moniz	—	382,570	—
Jay Cho	—	380,658	—
Timothy Justyn	—	266,261	—
Total			
Wendell Blonigan	574,000	2,203,406	1,079,406
James Moniz	—	722,570	—
Jay Cho	—	690,658	—
Timothy Justyn	—	770,261	—

(1) The amount shown includes a bonus of $550,000, which Mr. Blonigan would have been eligible to receive if he had resigned from the Company for good reason as a result of a change in control of the Company, and met the other terms and conditions of his severance agreement. This bonus would be pro-rated based on time and performance. For purposes of this table, we have assumed Mr. Blonigan worked the full year and achieved performance at 100% of target levels.

Equity Incentive Plans

Under the 2012 Equity Incentive Plan and the 2004 Equity Incentive Plan, all unvested options, RSUs and other equity awards vest in full and, if applicable, become exercisable and performance-based awards would be deemed achieved at 100% of target upon a change in control (as defined in the applicable plan) of Intevac or, with respect to awards under the 2012 Equity Incentive Plan, a merger of Intevac with or into another corporation or entity, unless the option or award is assumed or substituted for by the acquiring entity, and to the extent exercisable, would terminate if not exercised within the applicable period.

The Board or its Compensation Committee, as administrator of the 2012 Equity Incentive Plan and the 2004 Equity Incentive Plan, has the authority to provide for the accelerated vesting of any or all outstanding equity awards under the 2012 Equity Incentive Plan and the 2004 Equity Incentive Plan, including options held by our directors and executive officers, under such circumstances and at such times as the Compensation Committee deems appropriate, including in the event of termination of the executive or a Change in Control of Intevac.

Compensation of Directors

The following table sets forth summary information concerning compensation paid or accrued for services rendered to the Company in all capacities to the members of the Company's Board for the fiscal year ended December 28, 2019, other than Wendell Blonigan, whose compensation is set forth under the Summary Compensation Table.

Name	Fees Earned or Paid in Cash ($)	Stock Awards ($) (1)(2)	Option Awards ($) (1)(3)(5)	Total ($)
Kevin D. Barber	56,250	50,490	—	106,740
David S. Dury	75,000	50,490	—	125,490
Dorothy D. Hayes (3)	30,845	—	41,230	72,075
Stephen A. Jamison	50,000	50,490	—	100,490
Michele F. Klein (3)	28,033	—	41,230	69,263
Mark P. Popovich	53,125	50,490	—	103,615
Thomas M. Rohrs	62,188	50,490	—	112,678
John F. Schaefer (4)	39,713	50,490	—	90,203

(1) Amounts shown do not reflect compensation actually received by the director. Instead, the amounts shown are grant date fair value of awards granted during fiscal 2019 as determined pursuant to ASC 718. The assumptions used to calculate the value of option awards are set forth under Note 3 of the notes to Consolidated Financial Statements included in our Annual Report on Form 10-K for fiscal 2019 filed with the SEC on February 12, 2020.

(2) Mr. Dury, Mr. Barber, Dr. Jamison, Mr. Popovich, Mr. Rohrs and Mr. Schaefer each received a stock award grant to receive 9,000 shares of common stock made on May 15, 2019 with a grant date fair value of $50,490. Mr. Dury, Mr. Barber, Dr. Jamison, Mr. Popovich and Mr. Rohrs each had 9,000 restricted stock units outstanding at December 28, 2019.

(3) Ms. Hayes and Ms. Klein were appointed to the Board on June 7, 2019. Each received a stock option grant to purchase 25,000 shares of common stock made on June 20, 2019 at an exercise price of $4.71 per share with a grant date fair value of $41,230.

(4) Mr. Schaefer retired from the Board on August 15, 2019.

(5) The directors had options to purchase the following shares of common stock outstanding at December 28, 2019: Mr. Barber: 25,000 shares; Mr. Dury: 80,000 shares; Ms. Hayes: 25,000 shares; Dr. Jamison: 25,000 shares; Ms. Klein: 25,000 shares; Mr. Popovich: 25,000 shares; and Mr. Rohrs: 66,000 shares.

Standard Director Compensation Arrangements

Intevac uses a combination of cash and equity compensation to attract and retain qualified candidates to serve on our Board. The Compensation Committee of the Board conducts an annual review of director compensation in consultation with Radford and, if appropriate, recommends any changes in the type or amount of compensation to the Board. In reviewing director compensation, the Compensation Committee takes into consideration the compensation paid to non-employee directors of comparable companies, including competitive non-employee director compensation data and analyses prepared by compensation consulting firms and the specific duties and committee responsibilities of particular directors. In addition, the Compensation Committee may make recommendations or approve changes in director compensation in connection with the Compensation Committee's administration and oversight of our 2012 Equity Incentive Plan. Any change in director compensation is approved by the Board. While increases in director fees were approved for 2018 to better align with market practices, these changes were held until 2019 as part of the 2018 Company-wide cost reduction efforts.

Cash Compensation

Annual cash compensation for non-employee board members are as follows:

	2018	2019
Non-Chair Board Retainer	$45,000	$45,000
Additional Board Chair Retainer	$20,000	$25,000
Audit Committee Chairmanship Compensation	$ 6,500	$15,000
Compensation Committee Chairmanship Compensation	$ 5,000	$10,000
Nominating and Governance Committee Chairmanship Compensation	$ 5,000	$ 5,000
Audit Committee Member Compensation	—	$ 7,500
Compensation Committee Member Compensation	—	$ 5,000
Nominating and Governance Committee Member Compensation	—	$ 2,500

Directors do not receive cash compensation for attending meetings of the Board.

Equity Compensation

Our non-employee directors are eligible to receive grants of options to purchase shares of our common stock and other equity awards pursuant to our 2012 Equity Incentive Plan when and as determined by our Board and subject to the 2012 Equity Incentive Plan's limits on annual non-employee director grants. During fiscal 2019, Mr. Dury, Mr. Barber, Dr. Jamison, Mr. Popovich, Mr. Rohrs and Mr. Schaefer each received grant of 9,000 time-based RSUs under the 2012 Equity Incentive Plan. Ms. Hayes, and Ms. Klein each received an option to purchase 25,000 shares under the 2012 Equity Incentive Plan representing a one-time grant for being appointed to the Board.

During 2014, the Board established minimum ownership guidelines for Company common stock for directors. Directors must own stock in the Company of at least three times the annual retainer paid to independent directors (exclusive of any compensation for committee service such as meeting fees and leadership roles.) The ownership level must be initially achieved by December 31 in the fourth year after the director is first elected. These ownership guidelines are applicable to all directors of the Company. In the event that a director also serves as an executive officer of the Company, the director will be subject to the same level of requirements as all directors. Mr. Blonigan, Mr. Dury and Mr. Rohrs were in compliance with the ownership guidelines at December 28, 2019. As recently elected members of the Board, Mr. Barber, Dr. Jamison and Mr. Popovich have until December 31, 2022 and Ms. Hayes and Ms. Klein have until December 31, 2023 to achieve compliance with the ownership guidelines.

Other Arrangements

Non-employee directors also have their travel, lodging and related expenses associated with attending Board or committee meetings and for participating in Board-related activities paid or reimbursed by Intevac.

Equity Compensation Plan Information

The following table summarizes the number of outstanding options and RSUs granted to employees and directors, as well as the number of securities remaining available for future issuance, under Intevac's equity compensation plans at December 28, 2019.

Plan Category	(a) Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	(b) Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (1)	(c) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (2)
Equity compensation plans approved by security holders (3)	2,649,965	$6.63	2,220,964
Equity compensation plans not approved by security holders	—	$ —	—
Total	2,649,965	$6.63	2,220,964

(1) Calculation of weighted-average exercise price excludes RSUs, for which there is no exercise price.

(2) Excludes securities reflected in column (a).

(3) Included in the column (c) amount are 555,449 shares available for future issuance under Intevac's 2003 Employee Stock Purchase Plan.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information regarding the ownership of our common stock as of March 31, 2020, for each person or entity who is known by us to own beneficially more than 5% of the outstanding shares of our common stock, each of the NEOs in the 2019 Summary Compensation Table on page 46, each of our directors, and all directors and current executive officers of Intevac as a group.

	Total Number of Shares (2)	Common Stock	Rights to Acquire (3)	Percentage Beneficially Owned (4)
Principal Stockholders, Executive Officers and Directors (1)				
5% Stockholders:				
Bleichroeder LP (5)	4,976,855	4,976,855	—	21.2%
Royce & Associates LP (6)	1,893,398	1,893,398	—	8.1%
Dimensional Fund Advisors LP (7)	1,430,379	1,430,379	—	6.1%
NEOs:				
Wendell Blonigan	705,721	188,846	516,875	3.0%
James Moniz	250,205	78,205	172,000	*
Jay Cho	233,245	69,995	163,250	*
Timothy Justyn	156,115	72,334	83,781	*
Directors:				
Kevin D. Barber	34,000	—	34,000	*
David S. Dury (8)	199,000	124,000	75,000	*
Dorothy D. Hayes	—	—	—	*
Stephen A. Jamison	21,500	—	21,500	*
Michele F. Klein	—	—	—	*
Mark P. Popovich	34,000	—	34,000	*
Thomas M. Rohrs	103,000	28,000	75,000	*
All directors and executive officers as a group (11 persons)	1,736,786	561,380	1,175,406	7.4%

* Less than 1%

(1) Unless otherwise indicated in their respective footnote, the address for each listed person is c/o Intevac, Inc., 3560 Bassett Street, Santa Clara, CA 95054.

(2) The number and percentage of shares beneficially owned is determined in accordance with Rule 13d-3 of the Exchange Act, and the information is not necessarily indicative of beneficial ownership for any other purpose. Unless otherwise indicated in the footnotes, each person or entity has sole voting and investment power (or shares such powers with his or her spouse) with respect to the shares shown as beneficially owned.

(3) Includes any shares over which the individual or entity has the right to acquire within 60 days of March 31, 2020, through the exercise of any vested stock option and the vesting of performance shares and restricted stock units.

(4) The total number of shares of Common Stock outstanding was 23,489,111 as of March 31, 2020.

(5) The address of Bleichroeder LP ("Bleichroeder") is 1345 Avenue of the Americas, New York, NY 10105. This information was obtained from a filing made with the SEC pursuant to Section 13(g) of the Exchange Act on February 12, 2020. Bleichroeder, an investment adviser registered under Section 203 of the Investment Advisers Act of 1940, is deemed to be the beneficial owner of 4,976,855 shares, which equates to 21.2% of Common Stock as a result of acting as investment adviser to various clients. Clients of Bleichroeder have the right to receive and the ultimate power to direct the receipt of dividends from, or the proceeds of the sale of, such securities. 21 April Fund, Ltd. ("21 April"), a Cayman Islands company for which Bleichroeder acts as investment adviser, may be deemed to beneficially own 3,322,615 of these 4,976,855 shares, which equates to 14.1% of the Common Stock.

(6) The address of Royce & Associates LP is 745 Fifth Avenue, New York, NY 10151. This information was obtained from a filing made with the SEC pursuant to Section 13(g) of the Exchange Act on January 23, 2020. Royce & Associates LP reported sole voting and dispositive power as to all shares of Common Stock beneficially owned.

(7) The address of Dimensional Fund Advisors LP. is Building One, 6300 Bee Cave Road, Austin, Texas, 78746. This information was obtained from a filing made with the SEC pursuant to Section 13(g) of the Exchange Act on February 12, 2020. Dimensional Fund Advisors LP, an investment adviser registered under Section 203 of the Investment

Advisors Act of 1940, furnishes investment advice to four investment companies registered under the Investment Company Act of 1940, and serves as investment manager or subadviser to certain other commingled funds, group trusts and separate accounts (such investment companies, trusts and accounts, collectively referred to as the “Funds”). In certain cases, subsidiaries of Dimensional Fund Advisors LP may act as an adviser or sub-adviser to certain Funds. In its role as investment advisor, sub-adviser and/or manager, Dimensional Fund Advisors LP or its subsidiaries (collectively, “Dimensional”) may possess voting and/or investment power over the securities of the Issuer that are owned by the Funds, and may be deemed to be the beneficial owner of the shares of the Issuer held by the Funds. However, all securities reported in this schedule are owned by the Funds. Dimensional disclaims beneficial ownership of such securities.

(8) Includes 66,000 shares that Mr. Dury holds indirectly through a trust with his spouse.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Review, Approval or Ratification of Related Person Transactions

In accordance with our Code of Business Conduct and Ethics and our Director Code of Ethics and the charter for the Audit Committee of the Board, our Audit Committee reviews and approves in advance in writing any proposed related person transactions. The most significant related person transactions, as determined by the Audit Committee, must be reviewed and approved in writing in advance by our Board. Any related person transaction will be disclosed in the applicable SEC filing as required by the rules of the SEC. For purposes of these procedures, "related person" and "transaction" have the meanings contained in Item 404 of Regulation S-K.

Mr. Thomas Rohrs, who has served on our Board since 2010, serves as the Executive Chairman of Ichor Systems, Inc. ("Ichor"). Intevac has entered into transactions with Ichor for the purchase of goods and services in the ordinary course of business during the past two fiscal years. Intevac paid Ichor $211,000 in fiscal 2018 and $193,000 in fiscal 2019.

Since the beginning fiscal 2017, with the exception of the payments made to Ichor described above, there were no transactions to which Intevac was a party or will be a party, in which the amounts involved exceeded or will exceed $120,000 and in which the following persons had or will have a direct or indirect material interest:

- Any of our directors or executive officers;
- Any nominee for election as one of our directors;
- Any person or entity that beneficially owns more than five percent of our outstanding shares; or
- Any member of the immediate family of any of the foregoing person.

AUDIT COMMITTEE REPORT

The primary role of the Audit Committee is to provide oversight and monitoring of Intevac's management and the independent registered public accounting firm and their activities with respect to Intevac's financial reporting process. In the performance of its oversight function, the Audit Committee has:

- reviewed and discussed the audited financial statements with BPM LLP and management;
- discussed with BPM LLP, Intevac's independent public accountants, the matters required to be discussed under the applicable requirements of the Public Company Accounting Oversight Board ("PCAOB") and the SEC;
- received from BPM LLP the written disclosures and the letter from the independent auditors required by the applicable requirements of the PCAOB regarding BPM LLP's communications with the Audit Committee concerning independence, and has discussed with BPM LLP their independence; and
- considered whether the provision of services covered by Principal Accountant Fees and Services is compatible with maintaining the independence of BPM LLP.

Based upon the review and discussions described in this report, the Audit Committee recommended to the Board that the audited financial statements be included in Intevac's Annual Report on Form 10-K for the fiscal year ended December 28, 2019.

Respectfully submitted by the members of the Audit Committee of the Board of Directors

Dorothy D. Hayes (Chairman)
Kevin D. Barber
Mark P. Popovich
Thomas M. Rohrs

OTHER BUSINESS

The Board of Directors knows of no other business that will be presented for consideration at the Annual Meeting. If other matters are properly brought before the Annual Meeting, however, it is the intention of the persons named in the accompanying proxy to vote the shares represented thereby on such matters in accordance with their best judgment.

BY ORDER OF THE BOARD OF DIRECTORS

JAMES MONIZ
Executive Vice President, Finance and Administration, Chief Financial Officer and Treasurer

April 8, 2020

[THIS PAGE INTENTIONALLY LEFT BLANK]

FORM 10-K

FOR THE FISCAL YEAR ENDED DECEMBER 28, 2019

INTEVAC, INC.

[THIS PAGE INTENTIONALLY LEFT BLANK]

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

Form 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 28, 2019

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission file number 0-26946

INTEVAC, INC.
(Exact name of registrant as specified in its charter)

Delaware	**94-3125814**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

3560 Bassett Street
Santa Clara, California 95054
(Address of principal executive office, including Zip Code)

Registrant's telephone number, including area code: (408) 986-9888

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock ($0.001 par value)	**IVAC**	**The Nasdaq Stock Market LLC (Nasdaq Global Select)**

Securities registered pursuant to Section 12(g) of the Act:
None.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. ☐ Yes ☒ No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. ☐ Yes ☒ No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. ☒ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). ☒ Yes ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.:

Large accelerated filer	☐	Accelerated filer	☒
Non-accelerated filer	☐	Smaller reporting company	☒
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). ☐ Yes ☒ No

As of June 30, 2019, the aggregate market value of voting and non-voting stock held by non-affiliates of the Registrant was approximately $108,615,756 (based on the closing price for shares of the Registrant's Common Stock as reported by the Nasdaq Stock Market for the last trading day prior to that date). Shares of Common Stock held by each executive officer and director have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

On February 7, 2020, 23,559,479 shares of the Registrant's Common Stock, $0.001 par value, were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE.

Portions of the Registrant's Proxy Statement for the 2020 Annual Meeting of Stockholders are incorporated by reference into Part III. Such proxy statement will be filed within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain information in this Annual Report on Form 10-K ("report" or "Form 10-K") of Intevac, Inc. and its subsidiaries ("Intevac" or the "Company"), including "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7, is forward-looking in nature. All statements in this report, including those made by the management of Intevac, other than statements of historical fact, are forward-looking statements. Examples of forward-looking statements include statements regarding Intevac's future financial results, operating results, cash flows and cash deployment strategies, business strategies, costs, products, working capital, competitive positions, management's plans and objectives for future operations, research and development, acquisitions and joint ventures, growth opportunities, customer contracts, investments, liquidity, declaration of dividends, and legal proceedings, as well as market conditions and industry trends. These forward-looking statements are based on management's estimates, projections and assumptions as of the date hereof and include the assumptions that underlie such statements. Forward-looking statements may contain words such as "may," "will," "should," "could," "would," "expect," "plan," "anticipate," "believe," "estimate," "predict," "potential" and "continue," the negative of these terms, or other comparable terminology. Any expectations based on these forward-looking statements are subject to risks and uncertainties and other important factors, including those discussed in Item 1A, "Risk Factors," below and elsewhere in this report. Other risks and uncertainties may be disclosed in Intevac's prior Securities and Exchange Commission ("SEC") filings. These and many other factors could affect Intevac's future financial condition and operating results and could cause actual results to differ materially from expectations based on forward-looking statements made in this report or elsewhere by Intevac or on its behalf. Intevac undertakes no obligation to revise or update any forward-looking statements.

The following information should be read in conjunction with the Consolidated Financial Statements and the accompanying Notes to Consolidated Financial Statements included in this report.

PART I

Item 1. *Business*

Overview

Intevac's business consists of two reportable segments:

Thin-film Equipment ("TFE"): Intevac is a leader in the design and development of high-productivity, thin-film processing systems. Our production-proven platforms are designed for high-volume manufacturing of substrates with precise thin-film properties, such as the hard disk drive ("HDD") media, display cover panel ("DCP"), and solar photovoltaic ("PV") markets we serve currently.

Photonics: Intevac is a leading developer of advanced high-sensitivity digital sensors, cameras and systems that primarily serve the defense industry. We are a leading provider of integrated digital night-vision imaging systems for the U.S. military.

Intevac was incorporated in California in October 1990 and was reincorporated in Delaware in 2007.

TFE Segment

Hard Disk Drive ("HDD") Equipment Market

Intevac designs, manufactures, markets and services complex capital equipment used to deposit thin films and lubricants onto substrates to produce magnetic disks that are used in HDDs. Disk and disk drive manufacturers produce magnetic disks in a sophisticated manufacturing process involving many steps, including plating, annealing, polishing, texturing, sputtering, etching, stripping and lubrication. Intevac believes its systems represent approximately 65% of the installed capacity for disk sputtering worldwide. Intevac's systems are used by manufacturers of magnetic media such as Seagate Technology, Western Digital, including its wholly-owned subsidiary HGST, Fuji Electric, and Showa Denko.

HDDs are a primary storage medium for digital data including nearline "cloud" applications and are used in products and applications such as personal computers ("PCs"), enterprise data storage, video players and video game consoles. Intevac believes that HDD media shipments will grow over time, driven by continued high growth rates in digitally-stored data, by the slowing of areal density improvements, by the increase in demand for nearline drives for cloud storage, an increasing tie ratio (the average number of disks per hard drive) and by new and emerging applications. The projected growth rates for digitally-stored data on HDDs exceed the rate of areal density improvements, at the same time as the tie ratio is increasing, which results in demand for magnetic disks outpacing HDD units.

In recent years HDD media units have been negatively impacted by declining PC units, primarily resulting from the proliferation of tablets and the transition to centralized storage. Although the HDD industry continues to expect growth in the nearline data storage market segment, the transition to centralized storage combined with the negative growth in PC shipments has resulted in lower HDD shipments in recent years. However, Intevac continues to believe that long-term demand for hard disks required for high capacity HDDs will increase, driven by growth in demand for digital storage, a declining growth rate in areal density improvements, and increased information technology spending to support the transition to cloud storage. The number of disk manufacturing systems needed to support this growth as well as future technology transitions and improvements is expected to vary from year to year depending on the factors noted above.

Intevac expects that HDD manufacturers will extend their utilization of planar perpendicular media with the introduction of new technologies such as Heat Assisted Magnetic Recording (“HAMR”) and Energy Assisted Magnetic Recording (“EAMR”). Initial volume shipments of both HAMR and EAMR-based HDDs are expected to begin in 2020. Intevac believes that leading manufacturers of magnetic media, that are using Intevac systems for the development of these new technologies, will create a significant market opportunity for systems upgrades in support of the media evolution required by these new technologies as they are more widely adopted.

Display Cover Panel (“DCP”) Market

Intevac develops equipment to deposit optically transparent thin films onto DCPs typically found on consumer and automotive electronic products.

DCPs are found in products including smartphones, tablet PCs, wearable devices, gaming systems, digital cameras, automotive infotainment systems and digital signage. In 2019, approximately 1.37 billion smartphones, 157 million tablet PCs and 66.5 million smart watches were shipped to consumers worldwide. For smartphones alone, it is forecasted that nearly 1.48 billion units will ship by 2023, representing a CAGR of 1.1% for the 2019 – 2023 time period.

The DCP is typically made of tempered glass, such as soda-lime or aluminosilicate, or other materials such as sapphire, ceramic and colorless polyimide. The primary function of the DCP is to provide a clear protective interface to the display it protects. In many cases, the DCP is treated with various coatings to enhance its protective performance as well as for clarity, readability and touch sensitivity.

The types of coatings typically found on DCPs of electronic devices include: Scratch Protection (“SP”) coatings, Anti-Reflection (“AR”) coatings, Anti-Finger (“AF”) and Non-Conductive Vacuum Metallization (“NCVM”) coatings.

SP coatings generally consist of hard thin films deposited onto the surface of the DCP. Their primary function is to provide enhanced protection against the incidence of scratch, but they can also provide greater breakage resistance. Intevac has developed and is currently marketing a SP coating known as Optical Diamond-like-Carbon (“oDLC®”) utilizing its production-proven carbon film technology that is also used on HDD media. This coating provides a hard protective layer which significantly improves the DCP’s resistance to scratches and breakage. The oDLC coating has demonstrated scratch protection benefits reflecting a greater than 20 times improvement over current standard cover glass under stainless steel ball Taber scratch testing. Furthermore, using a Ring-on-Ring (“RoR”) test, cover glass with our oDLC coating provides a greater than 20 percent increase in breakage resistance strength over cover glass without the oDLC coating. Intevac expects that the adoption of AR and NCVM coatings on mobile devices will create an increased need for SP coatings and provide a significant demand opportunity for oDLC.

In 2019, Intevac released DiamondClad™ protective coating. DiamondClad is a proprietary multi-step process that improves upon our original single film solution, oDLC. Developed in-house utilizing the ion beam source technology released last year, DiamondClad now performs similar to sapphire in scratch testing at the Mohs scale of material hardness 8 standard, compared to the industry standard glass with anti-fingerprint or AF coatings, which scratch at a Mohs 5 level. DiamondClad coating outperforms standard cover-glass by a factor of 4 in Taber wear testing, and by a factor of 4 to 6 times in use-case AF durability testing with sand, denim, and perspiration.

AR coatings enable greater light transmission though the DCP by reducing the light reflected by the surface back to the user's eye. This allows the user to more easily read the display and reduces the required power needed to display the image which results in extending the battery life. A significant drawback to using AR coatings is their susceptibility to scratch. AR coatings are typically soft and must be applied to the outer surface of the DCP. These coatings generally scratch easily, and as such, smartphone manufacturers have been reluctant to implement AR coatings on their products.

AF coatings provide water and oil protection for the surface of the DCP. This coating, which prevents fingerprints, provides greater aesthetics as well as improving readability. AF coatings allow for greater visual acuity when fingerprints are not visible. The drawback to AF coatings is their relatively low resistance to wear. The coating is soft and usually wears off within a few months of product purchase.

With the adoption of wireless charging and the upcoming 5G standard of wireless communication, smartphone manufacturers are making a major transition to DCP on the backside of the device. This transition is essential to ensure that the backside cover, which previously used to be metallic, does not interfere with the wireless signals. NCVM coatings are a new type of color film coating, applied for decorative purposes, to the backside DCP. When applied to the exterior, the NCVM coating provides a pleasing aesthetic and gives manufacturers flexibility with color customization. Decorative NCVM coatings have evolved from single color to multiple colors with complex transitions. Intevac has developed a proprietary technology that enables the creation of uniquely patterned NCVM coatings for the phone back cover. Several leading handset manufacturers are currently evaluating this technology for potential incorporation into their upcoming phone models.

When applied to the exterior of the backside DCP, NCVM has a tendency to scratch easily and rub off over time, leading to a poor appearance. To preserve the color film on the backside DCP, manufacturers are reliant on SP coatings for scratch-resistance and a consistent appearance. Intevac expects the adoption of AR and NCVM coatings on mobile devices will create an increased need for SP coatings and provide a significant demand opportunity for oDLC and DiamondClad coatings.

Solar Market

Intevac designs, manufactures and markets capital equipment for the PV solar manufacturing industry.

A solar cell (also called a PV cell) is a solid state device that converts the energy of sunlight directly into electricity. Assemblies of cells are used to make solar modules, also known as solar panels. Solar panels have broad-based end market applications for utility-scale solar farms; integrated building PV arrays for commercial, retail, and offices; residential rooftop; and for portable devices.

The cost of electricity generated from solar energy, in many cases, remains higher than that of electricity generated from traditional energy sources. However, deployment of photovoltaics is gaining momentum on a worldwide scale, particularly in Asia, North America and other regions, where solar PV is now increasingly competitive with conventional energy sources. Grid parity, whereby solar PV generates power at a levelized cost of electricity ("LCOE") less than or equal to the price of power purchased from the electrical grid, has already been reached in about thirty countries. In countries or areas where the cost of solar energy generation remains higher than traditional electricity generation sources, some governments have implemented various tax credits and other financial incentives to promote the growth in solar and other alternative energy sources. As a result of solar energy costs having favorably declined due to the increased scale and improved manufacturing efficiencies spurred by these incentive policies, many governments have reduced or are planning to reduce their incentives for solar, a trend which is likely to continue. More than 138 gigawatts of solar capacity were added globally in 2019, rising 35% year-on-year, but the rate is expected to taper off to a modest growth of 3% in 2020. Intevac expects that 2020 will continue to be challenging for the solar industry due to further declines in solar panel pricing.

The PV industry continues to focus on the development of high-efficiency cell technologies aimed at simultaneously boosting PV efficiency and reducing solar energy production costs. New vacuum process technologies and integrated processing steps are expected to become increasingly important as companies search for lower-cost manufacturing solutions for PV cells.

Intevac offers products for wafer-based crystalline silicon ("c-Si") solar cell manufacturing processes, the prevailing manufacturing process in the PV industry. Intevac's products for the solar industry are specifically focused on cell designs with the highest energy conversion efficiency, which are within the n-type mono crystalline portion of the market.

Intevac offers thin-film vacuum process manufacturing solutions for c-Si cell fabrication applications. Intevac offers high-productivity process equipment solutions that enable low-cost solar cell manufacturing with high cell efficiency, consistent with the PV industry's focus and requirements. Intevac has developed two vacuum process application technologies for solar cell manufacturing: one utilizes Physical Vapor Deposition ("PVD") technology for the deposition of thin films onto c-Si wafers, and the other utilizes ion implantation, which selectively changes the electrical characteristics of the c-Si solar cell.

PVD is a process used in multiple ways in the manufacturing of solar cells such as for fabricating electrical contacts and conductor layers, depositing reflective layers of various types, and for growing transparent conductive oxide layers, all of which are critical to the efficiency of solar cells.

Ion implantation is a solar cell processing technology whereby an impurity is added to a PV structure to improve its conductivity. In ion implantation, a beam of ions of a desired dopant element such as phosphorus or boron is electrostatically accelerated and directed toward the target material, introducing the impurity. In a subsequent thermal annealing step, the dopant is electrically activated. The ion implant processes enable precision engineering of the dose and of the depth of dopant elements to form emitter structures in working solar cells. Ion implantation is a technique being introduced to solar cell lines as a means to lower the cost per watt to manufacture the cell. Ion implantation can replace existing diffusion processes in existing solar processing lines for present-day PV cell structures, and is also extendable to new advanced cell structures. In both cases, ion implant-formed emitters are created with fewer processing steps, and therefore at lower cost, than the diffusion processes implant displaces. Intevac's ion implantation products are based upon technology developed by Solar Implant Technologies, Inc. ("SIT") which was acquired by Intevac in November 2010.

Fan-Out Packaging Market

Intevac is bringing to market capital equipment for fan-out packaging applications, fan-out packaging being a specialized part of the overall semiconductor device packaging market.

Semiconductor device packaging technology in general, and fan-out wafer level packaging ("FOWLP")/fan-out panel level packaging ("FOPLP") technology in particular, is being driven by the strong cost advantages these technologies offer over the cost of further implementing continued Moore's Law progress for 10nm and 7nm semiconductor device process nodes. Generally speaking, fan-out packaging provides for increased Input/Output ("I/O") density for a given semiconductor device while simultaneously supporting continued progress in shrinking the individual semiconductor devices, resulting in decreased footprint per device and, by extension, decreases in the amount of space integrated circuit content occupies in handheld consumer electronic products, for example in smartphones, wearables, and in Internet of Things ("IoT") devices.

Fan-out packaging technology consists of a series of operations where known good semiconductor devices from silicon wafers fabricated by an Integrated Device Manufacturer ("IDM"), or by a semiconductor foundry, are singulated and then assembled onto a substrate or temporary carrier, which is then overmolded with epoxy mold compound and cured to create what is known as a reconstituted wafer. The reconstituted wafer then goes through another series of process steps (dielectric deposition, metallization, photolithography), to create a redistributed "fan-out" of the electrical interconnections from the original silicon device area to an expanded area that includes the device (die) surface itself, along with a generous amount of extra surface created from the mold compound area.

A redistribution layer ("RDL") is the "fanned-out" metal layer on a packaged integrated circuit that makes the I/O pads of the integrated circuit available in other locations. PVD processes are essential to RDL fabrication; in fan-out packaging, our INTEVAC MATRIX®PVD system is used to deposit thin layers of Titanium ("Ti"), Titanium Tungsten ("TiW") and Copper ("Cu") to form the barrier/seed layer upon which the full RDL is constructed.

Applications driving the adoption of fan-out packaging include, among others: (1) baseband processors and application processors; (2) radio frequency ("RF") transceivers and switches; (3) power management integrated circuits ("PMIC"); (4) radar modules for automotive; (5) audio codec; and (6) microcontrollers.

Smartphones from Apple, Xiaomi, LG and others incorporate fan-out packaged components, as do most higher-end automobiles. IoT applications in the future are expected to contribute additional significant volume in fan-out packaged devices.

The compelling advantages our INTEVAC MATRIX PVD system brings to fan-out packaging are a much-reduced cost of ownership over the current PVD process tools of record used for RDL barrier/seed layer applications, and also the flexibility to run round wafers, and square or rectangular panels, with no changes to the INTEVAC MATRIX PVD system beyond a simple substrate carrier substitution.

TFE Products

Intevac's TFE product portfolio addressing each of these markets is based around common core technologies and competencies. Intevac believes its TFE product portfolio can be extended to support adjacent markets. Based on its history and market and technology leadership in the HDD industry, Intevac offers superior high-productivity vacuum handling of small substrates at the lowest cost of ownership. Lowest cost of ownership includes various advantages such as high target utilization, high throughput, small footprint, double-sided coating, and reduced materials costs.

Product Table

The following table presents a representative list of the TFE products that we offered during fiscal 2019 and fiscal 2018.

TFE Products	Applications and Features
HDD Equipment Market	
200 Lean® Disk Sputtering System	• Uses PVD and chemical vapor deposition ("CVD") technologies. • Deposits magnetic films, non-magnetic films and protective carbon-based overcoats. • Provides high-throughput for small-substrate processing. • Over 160 units installed.
Upgrades, spares, consumables and services (non-systems business)	• Upgrades to the installed base to support the continued growth in areal density or reduce the manufacturing cost per disk.
DCP Market	
INTEVAC VERTEX® System	• Utilizes vertical sputtering for multiple film types. • Provides high-throughput for small-substrate processing. • Uses patented carbon deposition source. • Modular design enables expandability. • Enables low-temperature processing.
INTEVAC VERTEX™ Spectra System	• Extension of the VERTEX system. • Incorporates multiple source technologies in a single system. • Uses proprietary ion beam processing for deposition and etching. • Enables unique patterned NCVM and hard AR coatings.
INTEVAC VERTEX™ Marathon System	• Versatile platform for high volume manufacturing of multi-step, multi-layer optical coatings. • Enables diverse coatings — DiamondClad, patterned NCVM and AR films.
Solar PV Market	
INTEVAC MATRIX PVD System	• Deposits electrical contacts and conductor layers, reflective layers, and transparent conductive oxide layers, all of which are critical to the efficiency of solar cells. • Includes patented Linear Scanning Magnetic Array ("LSMA") magnetron source, with industry-leading target utilization rate of over 65 percent. • Provides high-throughput for small-substrate processing.
INTEVAC MATRIX Implant System	• Utilizes the chambers and transport mechanism of the MATRIX platform while using the implant sources from the ENERG*i* system.
ENERG*i*® Implant System	• Supports both phosphorus and boron dopant technologies. • Extendable to new advanced solar cell structures.
Fan-Out Packaging Market	
INTEVAC MATRIX PVD System	• Deposits barrier/seed layers for fan-out RDL. • Includes LSMA magnetron source, with industry-leading target utilization rate of over 65 percent. • Provides high-throughput and low cost of ownership for small-substrate or large panel processing. • Provides flexibility for handling round, square, or rectangular substrates for fan-out packaging.

TFE Products	Applications and Features
Adjacent Markets	
INTEVAC MATRIX System	• Incorporates multiple thin-film deposition techniques such as PVD, CVD, Etch, Implant, heating and cooling. • Consists of high-speed linear transport. • Flexible design enables handling of various different small substrate sizes and shapes. • Performs double-sided coating within vacuum.

Photonics Segment

Photonics Market

Intevac Photonics develops, manufactures and sells compact, high-sensitivity digital-optical products for the capture and display of extreme low-light images. These products incorporate high resolution digital night-image sensors operating in the visible and near infrared ("NIR") light spectrums and are based on Intevac's proprietary EBAPS® (Electron Bombarded Active Pixel Sensor) technology.

Photonics products primarily address the high performance military night-vision market. Our products provide digital imagery in extremely low-light level conditions. Intevac provides these products for military aircraft including the U.S. Army AH-64 Apache Attack Helicopter and the F-35 Joint Strike Fighter. The Company is developing additional technologies to address soldier head-mounted and weapon-mounted applications.

Military Products

Intevac's EBAPS is incorporated into custom-designed cameras, modules and system products for high performance military applications. Intevac's EBAPS can be integrated at various levels with optics, electronics, software, and displays based upon customer specifications and requirements. Intevac has developed a next-generation, 3.7 mega-pixel resolution Intevac Silicon Imagine Engine ("ISIE") 19 EBAPS which operates at higher resolutions, lower light levels, higher speeds, and lower power consumption for use in next-generation systems. Customization typically occurs in the areas of electronics, near-eye micro-displays and mechanical packaging. Intevac's products by application are:

Helicopter Pilotage

Intevac provides a night-vision camera with a 2.0 mega-pixel resolution EBAPS module which is gimbal turret-mounted on the nose of the Apache helicopter. The low-light level digital video is then viewable by the helicopter pilot on a Head-Mounted Display ("HMD") enabling the pilot to have enhanced night vision and allowing the aircrew to view multiple aircraft-mounted sensor information.

Fixed Wing Aircraft Pilotage

Intevac provides night-vision modules with a 2.0 mega-pixel resolution EBAPS module which are integrated with the F-35 fighter pilot's helmet and enables the pilot to have enhanced night vision incorporating navigational and tactical information. Additionally, a similar integrated night vision camera utilizing a 2.0 mega-pixel resolution EBAPS is being designed into the Striker II helmet for the NATO Eurofighter Typhoon aircraft.

Long-Range Target Identification

Intevac provides the Laser Illuminated Viewing and Ranging ("LIVAR®") shortwave-infrared camera for long range military night time surveillance systems that can identify targets at distances of up to twenty kilometers. Photonics' LIVAR camera is incorporated into long range target identification systems manufactured by a major defense contractor.

Augmented Reality ("AR") and Wireless HMDs

Intevac provides HMDs for applications in AR and weapon sights. The HMD is a near-eye, high-definition, wide field-of-view ("FOV") micro-display system for portable viewing of video in military and commercial applications. Depending on the application, Intevac provides configuration choices that include monocular or binocular, mono or stereo video, wired or wireless interfaces, and with integral inertial measurement units ("IMU"). An AR HMD overlays symbology and other information on and tracked in a view of the real world, creating the illusion that they occupy the same space. Intevac has developed and demonstrated wide FOV AR displays for use in HMDs.

Soldier Mobility

Intevac is developing a digital-fused binocular night-vision goggle with AR which will integrate the next-generation EBAPS. This goggle will demonstrate superior night-vision capability, with digital advantages, such as zoom, information overlay, and wireless image transmission and reception.

Intevac is developing a digital night-vision camera for the U.S. Army's Integrated Visual Augmentation System ("IVAS") program. The IVAS will incorporate head, body, and weapon technologies on individual soldiers. It is a single platform that soldiers can use to fight, rehearse, and train that provides increased mobility and situational awareness necessary to achieve overmatch against adversaries and includes a squad-level combat training capability.

Commercial Products

Low-Light Cameras

Photonics' MicroVista® product line of commercial compact and lightweight low-light Complementary Metal–Oxide–Semiconductor ("CMOS") cameras provides high sensitivity in the ultraviolet, visible or NIR regions of the spectrum for use in industrial inspection, bio-medical and scientific applications. These cameras are primarily sold through distribution channels and to original equipment manufacturers.

Customer Concentration

Historically, a significant portion of Intevac's revenue in any particular period has been attributable to sales to a limited number of customers.

The following customers accounted for at least 10 percent of Intevac's consolidated net revenues in fiscal 2019 and 2018.

	2019	2018
Seagate Technology	49%	52%
U.S. Government	20%	*
Jolywood (Hongkong) Industrial Holdings Co., Limited	14%	*
HGST	*	13%

* Less than 10%

Intevac expects that sales of Intevac's products to relatively few customers will continue to account for a high percentage of Intevac's revenues in the foreseeable future.

Foreign sales accounted for 67% of revenue in fiscal 2019 and 71% of revenue in fiscal 2018. The majority of Intevac's foreign sales are to companies in Asia or to U.S. companies for use in their Asian manufacturing or development operations. Intevac anticipates that foreign sales will continue to be a significant portion of Intevac's TFE revenues. Intevac's disk sputtering equipment customers include magnetic disk manufacturers, such as Fuji Electric and Showa Denko, and vertically integrated HDD manufacturers, such as Seagate, Western Digital and HGST. Intevac's PV solar equipment customers include several major solar cell manufacturers. Intevac's DCP equipment customers include DCP manufacturers, such as Truly Opto-electronics. Intevac's customers' manufacturing facilities are primarily located in California, China, Taiwan, Japan, Malaysia, Philippines, Portugal and Singapore.

Competition

The principal competitive factors affecting the markets for Intevac TFE products include price, product performance and functionality, ease of integration, customer support and service, reputation and reliability. Intevac has one major competitor, Canon Anelva, in the hard disk drive equipment market and has historically experienced intense worldwide competition for magnetic disk sputtering equipment. Intevac primarily faces competition from large established global competitors in the PV equipment market including Centrotherm Photovoltaics, Jusung, Kingston and Von Ardenne. Intevac faces competition in the DCP market from optical coating equipment manufacturers such as Optorun and Shincron, glass manufacturers that may develop scratch resistant glass, touchscreen manufacturers that may adopt harder substrate materials, or other equipment companies, chemical companies or the display cover plate manufacturers themselves that may offer competing protective coatings including DLC, NCVM and AR. Intevac's competitors for PVD processes in the fan-out packaging market include the companies SPTS Technologies, Evatec AG, ULVAC Technologies, Inc., Tango Systems, Inc., and NEXX Systems. These competitors generally have substantially greater financial, technical, marketing, manufacturing and other resources as compared to Intevac. Furthermore, any of Intevac's competitors may develop enhancements to, or future generations of, competitive products that offer superior price or performance features. In addition, new competitors, with enhanced products may enter the markets that Intevac currently serves.

The principal competitive factors affecting Photonics products include price, extreme low-light level performance, power consumption, resolution, size, ease of integration, reliability, spectral band, reputation and customer support and service. Intevac faces substantial competition for Photonics products, and many competitors have substantially greater resources and brand recognition. In the military market for soldier and helicopter night vision goggles, Elbit Systems and L-3 Communications are large and well-established defense contractors and are the primary U.S. manufacturers of analog image intensifier tubes used in Generation-III night-vision devices. For long range airborne targeting applications, Intevac competes against camera providers using low light CMOS imagery. Intevac expects that other companies will develop digital night-vision products and aggressively promote their sales. Within the near-eye display market, Intevac also currently faces competition from Rockwell-Collins, Kopin and Six 15 Technologies in the defense space and anticipates that in the future it will experience competition from lower performance, niche commercial HMD providers expanding into defense applications, all of which can offer cost-competitive products.

Marketing and Sales

TFE sales are made primarily through Intevac's direct sales force. Intevac also sells its products through distributors in Japan and China. The selling process for Intevac's TFE products is multi-level and lengthy, involving individuals from marketing, engineering, operations, customer service and senior management.

Installing and integrating new equipment requires a substantial investment by a customer. Sales of Intevac's systems depend, in significant part, upon the decision of a prospective customer to replace obsolete equipment or to increase manufacturing capacity by upgrading or expanding existing manufacturing facilities or by constructing new manufacturing facilities, all of which typically involve a significant capital commitment. Intevac's systems have a lengthy sales cycle, during which Intevac may expend substantial funds and management time and effort with no assurance that a sale will result.

The production of large complex systems requires Intevac to make significant investments in inventory both to fulfill customer orders and to maintain adequate supplies of spare parts to service previously shipped systems. Intevac maintains inventories of spare parts in the United States, Singapore, Malaysia and China to support its TFE customers. Intevac often requires its TFE customers to pay for systems in three installments, with a portion of the system price billed upon receipt of an order, a portion of the price billed upon shipment, and the balance of the price and any sales tax due upon completion of installation and acceptance of the system at the customer's factory.

Intevac provides process and applications support, customer training, installation, start-up assistance and post-installation service support to Intevac's TFE customers. Intevac has field offices in Singapore, China, and Malaysia to support Intevac's customers in Asia.

Warranties for Intevac's TFE products typically range between 12 and 24 months from customer acceptance. During the warranty period any necessary non-consumable parts are supplied and installed without charge.

Sales of Photonics products for military applications are primarily made to the end user through Intevac's direct sales force. Intevac sells to the U.S. government and to leading defense contractors such as Lockheed Martin Corporation, Northrop Grumman Corporation, Elbit Systems of America, Raytheon, Leonardo DRS, BAE Systems and Safran Electronics and Defense.

Intevac is subject to long sales cycles in the Photonics segment because many of Intevac's products, such as Intevac's night-vision systems, typically must be designed into Intevac's customers' products, which are often complex and state-of-the-art. These development cycles are generally multi-year, and Intevac's sales are dependent on Intevac's customer successfully integrating Intevac's product into its product, completing development of its product and then obtaining production orders for its product. Sales of these products are also often dependent on ongoing funding of defense programs by the U.S. government and its allies. Additionally, sales to international customers are contingent on issuance of export licenses by the U.S. government.

Photonics generally invoices its research and development customers either as costs are incurred, or as program milestones are achieved, depending upon the particular contract terms. As a government contractor, Intevac invoices customers using estimated annual rates approved by the Defense Contracts Audit Agency ("DCAA").

Research and Development and Intellectual Property

Intevac's long-term growth strategy requires continued development of new products. Intevac works closely with Intevac's customers to design products that meet their planned technical and production requirements. Product development and engineering organizations are located primarily in the United States and Singapore.

Intevac's competitive position significantly depends on Intevac's research, development, engineering, manufacturing and marketing capabilities, and not just on Intevac's patent position. However, protection of Intevac's technological assets by obtaining and enforcing intellectual property rights, including patents, is important. Therefore, Intevac's practice is to file patent applications in the United States and other countries for inventions that Intevac considers important. Although Intevac does not consider Intevac's business materially dependent upon any one patent, the rights of Intevac and the products made and sold under Intevac's patents along with other intellectual property, including trademarks, know-how, trade secrets and copyrights, taken as a whole, are a significant element of Intevac's business.

Intevac enters into patent and technology licensing agreements with other companies when management determines that it is in Intevac's best interest to do so. Intevac pays royalties under existing patent license agreements for use of certain patented technologies in several of Intevac's products. Intevac also receives, from time to time, royalties from licenses granted to third parties. Royalties received from or paid to third parties have not been material to Intevac's consolidated results of operations.

In the normal course of business, Intevac periodically receives and makes inquiries regarding possible patent infringements. In dealing with such inquiries, it may be necessary or useful for us to obtain or grant licenses or other rights. However, there can be no assurance that such licenses or rights will be available to us on commercially reasonable terms, or at all. If Intevac is not able to resolve or settle claims, obtain necessary licenses and/or successfully prosecute or defend Intevac's position, Intevac's business, financial condition and results of operations could be materially and adversely affected.

Manufacturing

Intevac manufactures its TFE products at its facilities in California and Singapore. Intevac's TFE manufacturing operations include electromechanical assembly, vacuum processing, fabrication of sputter sources, and system assembly, alignment and testing.

Photonics products are manufactured at Intevac's facility in California. Photonics manufactures sensors, cameras, integrated camera systems, and near-eye display systems using advanced manufacturing techniques and equipment. Intevac's operations include vacuum processing, and electromechanical and optical system assembly.

Employees

At December 28, 2019, Intevac had 272 employees, including 14 contract employees.

Compliance with Environmental Regulations

Intevac is subject to a variety of governmental regulations relating to the use, storage, discharge, handling, emission, generation, manufacture, treatment and disposal of toxic or otherwise hazardous substances, chemicals, materials or waste. Intevac treats the cost of complying with government regulations and operating a safe workplace as a normal cost of business and allocates the cost of these activities to all functions, except where the cost can be isolated and charged to a specific function. The environmental standards and regulations promulgated by government agencies in California and Singapore are rigorous and set a high standard of compliance. Intevac believes its costs of compliance with these regulations and standards are comparable to other companies operating similar facilities in these jurisdictions.

Information about our Executive Officers

Certain information about our executive officers as of February 12, 2020 is listed below:

Name	Age	Position
Executive Officers:		
Wendell T. Blonigan	58	President and Chief Executive Officer
James Moniz	62	Executive Vice President, Finance and Administration, Chief Financial Officer and Treasurer
Timothy Justyn	57	Executive Vice President and General Manager, Photonics
Jay Cho	55	Executive Vice President and General Manager, TFE
Other Key Officers:		
Verle Aebi	65	Chief Technology Officer, Photonics
Terry Bluck	60	Chief Technology Officer, TFE
Kimberly Burk	54	Senior Vice President, Global Human Resources

Mr. Blonigan joined Intevac in July 2013 as President and Chief Executive Officer. Prior to joining Intevac, Mr. Blonigan co-founded Orbotech LT Solar in 2009 and served as the company's Chief Executive Officer until 2013. From 2006 until 2009, he was the Chief Operating Officer at Photon Dynamics, Inc. In 1991, Mr. Blonigan joined Applied Materials' AKT display subsidiary. During his tenure at AKT, he held various positions. In 2003, he was appointed President and served in this role until 2006; from 1999 through 2003 he was Vice President, and prior to that time he was Director of Engineering and New Product Development. Mr. Blonigan holds a BS in electronic engineering technology from DeVry University Missouri Institute of Technology.

Mr. Moniz joined Intevac as Executive Vice President, Finance and Administration, Chief Financial Officer and Treasurer in November 2014. Mr. Moniz previously served as the Chief Financial Officer of Nanometrics, Inc. from 2009 until his retirement in 2011. During 2008, Mr. Moniz was the Chief Financial Officer at Photon Dynamics, Inc. From 2000 until 2008, Mr. Moniz served as the Chief Financial Officer at Nextest Systems Corporation. Prior to Nextest, Mr. Moniz held senior financial management positions at Millennia Vision Corporation, Lockheed Martin Corporation, Loral Corporation and Varian Associates. Mr. Moniz holds an MBA, a BS in accounting and a BS in marketing from San Jose State University.

Mr. Justyn has served as Executive Vice President and General Manager, Photonics from February 2018. Mr. Justyn served as Senior Vice President of Global Operations from February 2015 to February 2018. Mr. Justyn served as Vice President, Photonics from October 2008 to February 2015. Mr. Justyn served as Vice President, TFE Manufacturing from April 1997 to October 2008. Mr. Justyn joined Intevac in February 1991 and has served in various roles in our TFE Products Division and our former night-vision business. Mr. Justyn holds a BS in chemical engineering from the University of California, Santa Barbara.

Mr. Cho joined Intevac in January 2014 and currently serves as Executive Vice President and General Manager, TFE. Prior to joining Intevac, Mr. Cho was President, Chief Executive Officer and Co-Founder of REEnewal Corporation. From 2006 to 2011, Mr. Cho served as Vice President / General Manager of the Tester and Repair Business Units of Orbotech LTD. From 2005 to 2006, Mr. Cho served as Vice President, Product Development at Metara Inc. From 1992 to 2005, Mr. Cho held various management positions at Novellus Systems, Inc. Prior to Novellus, Mr. Cho worked for Digital Equipment Corporation and Intermec Corporation. Mr. Cho holds a BS in electrical engineering from Washington State University and an MBA from University of Phoenix.

Mr. Aebi has served as Chief Technology Officer of the Photonics business since August 2006. Previously, Mr. Aebi served as President of the Photonics Division from July 2000 to July 2006 and as General Manager of the Photonics Division since May 1995. Mr. Aebi was elected as a Vice President of the Company in September 1995. From 1988 through 1994, Mr. Aebi was the Engineering Manager of the night-vision business Intevac acquired from Varian Associates in 1991, where he was responsible for new product development in the areas of advanced photocathodes and image intensifiers. Mr. Aebi holds a BS in physics and an MS in electrical engineering from Stanford University.

Mr. Bluck rejoined Intevac as Chief Technology Officer of TFE in August 2004. Mr. Bluck had previously worked at Intevac from December 1996 to November 2002 in various engineering positions. The business unit Mr. Bluck worked for was sold to Photon Dynamics in November 2002, and he was employed there as Vice President, Rapid Thermal Process Product Engineering until August 2004. Mr. Bluck holds a BS in physics from San Jose State University.

Ms. Burk joined Intevac in May 2000 and currently serves as Senior Vice President of Global Human Resources. Prior to joining Intevac, Ms. Burk served as Human Resources Manager of Moen, Inc. from 1999 to 2000 and as Human Resources Manager of Lawson Mardon from 1994 to 1999. Ms. Burk holds a BS in sociology from Northern Illinois University.

Available Information

Intevac's website is *http://www.intevac.com.* Intevac makes available free of charge, on or through its website, its annual, quarterly and current reports, and any amendments to those reports, as soon as reasonably practicable after electronically filing such reports with, or furnishing them to, the SEC. This website address is intended to be an inactive textual reference only and none of the information contained on Intevac's website is part of this report or is incorporated by reference herein.

Trademarks

Intevac's trademarks include the following: "200 Lean®," "DiamondClad™," "DIAMOND DOG™," "EBAPS®," "ENERG*i*®," "LIVAR®," "INTEVAC LSMA®," "INTEVAC MATRIX®," "MicroVista®," "NightVista®," "oDLC®," "INTEVAC VERTEX®," "VERTEX Marathon™," and "VERTEX SPECTRA™."

Item 1A. ***Risk Factors***

The following factors could materially affect Intevac's business, financial condition or results of operations and should be carefully considered in evaluating the Company and its business, in addition to other information presented elsewhere in this report.

The industries we serve are cyclical, volatile and unpredictable.

A significant portion of our revenue is derived from the sale of equipment used to manufacture commodity technology products such as disk drives, PV solar cells and cell phones. This subjects us to business cycles, the timing, length and volatility of which can be difficult to predict. When demand for commodity technology products exceeds production capacity, then demand for new capital equipment such as ours tends to be amplified. Conversely, when supply of commodity technology products exceeds demand, then demand for new capital equipment such as ours tends to be depressed. We cannot predict with any certainty when these cycles will begin or end. Our sales of systems for magnetic disk production increased in 2016 as a customer began upgrading the technology level of its manufacturing capacity. Sales of systems and upgrades for magnetic disk production in 2017 and 2018 were higher than in 2016 as this customer's technology upgrade continued. Sales of systems and upgrades for magnetic disk production in 2019 were slightly down from the levels in 2018 as this customer took delivery of four systems. Intevac expects sales of systems and upgrades for magnetic disk production in 2020 will be at similar levels from the levels in 2019.

Our equipment represents only a portion of the capital expenditure that our customers incur when they upgrade or add production capacity. Accordingly, our customers generally commit to making large capital expenditures far in excess of the cost of our systems alone when they decide to purchase our systems. The magnitude of these capital expenditures requires our customers to have access to large amounts of capital. Our customers generally reduce their level of capital investment during downturns in the overall economy or during a downturn in their industries.

In recent years the photovoltaic (solar) market has undergone a downturn, which is likely to impact our sales of PV equipment. The solar industry from time to time experiences periods of structural imbalance between supply and demand, and such periods put intense pressure on our customers' pricing. The solar industry is currently in such a period. Competition in solar markets globally and across the solar value chain is intense, and could remain that way for an extended period of time. During any such period, solar module manufacturers may reduce their sales prices in response to competition, even below their manufacturing costs, in order to generate sales and may do so for a sustained period of time. As a result, our customers may be unable to sell their solar modules or systems at attractive prices or for a profit during a period of excess supply of solar modules, which would adversely affect their results of operations and their ability to make capital investments such as purchasing our products.

We must effectively manage our resources and production capacity to meet rapidly changing demand. Our business experiences rapid growth and contraction, which stresses our infrastructure, internal systems and managerial resources. During periods of increasing demand for our products, we must have sufficient manufacturing capacity and inventory to meet customer demand; attract, retain and motivate a sufficient number of qualified individuals; and effectively manage our supply chain. During periods of decreasing demand for our products, we must be able to align our cost structure with prevailing market conditions; motivate and retain key employees and effectively manage our supply chain.

Sales of our equipment are primarily dependent on our customers' upgrade and capacity expansion plans and whether our customers select our equipment.

We have no control over our customers' upgrade and capacity expansion plans, and we cannot be sure they will select, or continue to select, our equipment when they upgrade or expand their capacity. The sales cycle for our equipment systems can be a year or longer, involving individuals from many different areas of Intevac and numerous product presentations and demonstrations for our prospective customers. Our sales process also commonly includes production of samples and customization of our products. We do not typically enter into long-term contracts with our customers, and until an order is actually submitted by a customer there is no binding commitment to purchase our systems. In some cases, orders are also subject to customer acceptance or other criteria even in the case of a binding agreement.

Sales of new manufacturing systems are also dependent on obsolescence and replacement of the installed base of our customers' existing equipment with newer, more capable equipment. If upgrades are developed that extend the useful life of the installed base of systems, then we tend to sell more upgrade products and fewer new systems, which can significantly reduce total revenue.

Our 200 Lean HDD customers also experience competition from companies that produce alternative storage technologies like flash memory, which offer smaller size, lower power consumption and more rugged designs. These storage technologies are being used increasingly in enterprise applications and smaller form factors such as tablets, smart-phones, ultra-books, and notebook PCs instead of hard disk drives. Tablet computing devices and smart-phones have never contained, nor are they likely in the future to contain, a disk drive. Products using alternative technologies, such as flash memory, optical storage and other storage technologies are becoming increasingly common and could become a significant source of competition to particular applications of the products of our 200 Lean HDD customers, which could adversely affect our results of operations. If alternative technologies, such as flash memory, replace hard disk drives as a significant method of digital storage, then demand for our hard disk manufacturing products would decrease.

The Photonics business is also subject to long sales cycles because many of its products, such as our military imaging products, often must be designed into the customers' end products, which are often complex state-of-the-art products. These development cycles are typically multi-year, and our sales are contingent on our customers successfully integrating our product into their product, completing development of their product and then obtaining production orders for their product from the U.S. government or its allies.

We operate in an intensely competitive marketplace, and our competitors have greater resources than we do.

In the market for our disk sputtering systems, we experience competition primarily from Canon Anelva, which has sold a substantial number of systems worldwide. In the PV equipment market, Intevac faces competition from large established competitors including Centrotherm Photovoltaics, Jusung, Kingston and Von Ardenne. In the market for our military imaging products we experience competition from companies such as Elbit Systems and L-3 Communications. Some of our competitors have substantially greater financial, technical, marketing, manufacturing and other resources than we do, especially in the DCP and PV equipment markets. Our competitors may develop enhancements to, or future generations of, competitive products that offer superior price or performance features, and new competitors may enter our markets and develop such enhanced products. Moreover, competition for our customers is intense, and our competitors have historically offered substantial pricing concessions and incentives to attract our customers or retain their existing customers.

Our growth depends on development of technically advanced new products and processes.

We have invested heavily, and continue to invest, in the development of new products, such as our 200 Lean HDD and other PVD systems, our coating systems for DCP, our solar systems for PV applications, our digital night-vision products and our near-eye display products. Our success in developing and selling new products depends upon a variety of factors, including our ability to: predict future customer requirements; make technological advances; achieve a low total cost of ownership for our products; introduce new products on schedule; manufacture products cost-effectively including transitioning production to volume manufacturing; commercialize and attain customer acceptance of our products; and achieve acceptable and reliable performance of our new products in the field. Our new product decisions and development commitments must anticipate continuously evolving industry requirements significantly in advance of sales. In addition, we are attempting to expand into new or related markets, including the PV and display cover glass markets. Our expansion into the PV and cover glass markets is dependent upon the success of our customers' development plans. To date we have not recognized material revenue from such products. Failure to correctly assess the size of the markets, to successfully develop cost effective products to address the markets or to establish effective sales and support of the new products would have a material adverse effect on future revenues and profits. In addition, if we invest in products for which the market does not develop as anticipated, we may incur significant charges related to such investments.

Rapid technological change in our served markets requires us to rapidly develop new technically advanced products. Our future success depends in part on our ability to develop and offer new products with improved capabilities and to continue to enhance our existing products. If new products have reliability or quality problems, our performance may be impacted by reduced orders, higher manufacturing costs, delays in acceptance and payment for new products and additional service and warranty expenses.

We are exposed to risks associated with a highly concentrated customer base.

Historically, a significant portion of our revenue in any particular period has been attributable to sales of our disk sputtering systems to a limited number of customers. This concentration of customers, when combined with changes in the customers' specific capacity plans and market share shifts can lead to extreme variability in our revenue and financial results from period to period.

The concentration of our customer base may enable our customers to demand pricing and other terms unfavorable to Intevac, and makes us more vulnerable to changes in demand by or issues with a given customer. Orders from a relatively limited number of manufacturers have accounted for, and will likely continue to account for, a substantial portion of our revenues. The loss of one of these large customers, or delays in purchasing by them, could have a material and adverse effect on our revenues.

Our operating results fluctuate significantly from quarter to quarter, which can lead to volatility in the price of our common stock.

Our quarterly revenues and common stock price have fluctuated significantly. We anticipate that our revenues, operating margins and common stock price will continue to fluctuate for a variety of reasons, including: (1) changes in the demand, due to seasonality, cyclicality and other factors in the markets for computer systems, storage subsystems and consumer electronics containing disks as well as cell phones and PV solar cells our customers produce with our systems; (2) delays or problems in the introduction and acceptance of our new products, or delivery of existing products; (3) timing of orders, acceptance of new systems by our customers or cancellation or delay of those orders; (4) new products, services or technological innovations by our competitors or us; (5) changes in our manufacturing costs and operating expense; (6) changes in general economic, political, stock market and industry conditions; and (7) any failure of our operating results to meet the expectations of investment research analysts or investors.

Any of these, or other factors, could lead to volatility and/or a rapid change in the trading price of our common shares. In the past, securities class action litigation has been instituted against companies following periods of volatility in the market price of their securities. Any such litigation, if instituted against Intevac, could result in substantial costs and diversion of management time and attention.

We may not be able to obtain export licenses from the U.S. government permitting delivery of our products to international customers.

Many of our products, especially Photonics products, require export licenses from U.S. government agencies under the Export Administration Act, the Trading with the Enemy Act of 1917, the Arms Export Act of 1976 or the International Traffic in Arms Regulations. These regulations limit the potential market for some of our products. We can give no assurance that we will be successful in obtaining all the licenses necessary to export our products. Heightened government scrutiny of export licenses for defense related products has resulted in lengthened review periods for our license applications. Exports to countries that are not considered by the U.S. government to be allies are likely to be prohibited, and even sales to U.S. allies may be limited. Failure to comply with export control laws, including identification and reporting of all exports and re-exports of controlled technology or exports made without correct license approval or improper license use could result in severe penalties and revocation of licenses. Failure to obtain export licenses, delays in obtaining licenses, or revocation of previously issued licenses would prevent us from selling the affected products outside the United States and could negatively impact our results of operations.

The Photonics business is dependent on U.S. government contracts, which are subject to fixed pricing, immediate termination and a number of procurement rules and regulations.

We sell our Photonics products and services directly to the U.S. government, as well as to prime contractors for various U.S. government programs. The U.S government is considering significant changes in the level of existing, follow-on or replacement programs. We cannot predict the impact of potential changes in priorities due to military transformations and/or the nature of future war-related activities. A shift of government priorities to programs in which we do not participate and/or reductions in funding for or the termination of programs in which we do participate, unless offset by other programs and opportunities, could have a material adverse effect on our financial position, results of operations, or cash flows.

Funding of multi-year government programs is subject to congressional appropriations, and there is no guarantee that the U.S. government will make further appropriations. Sales to the U.S. government and its prime contractors may also be affected by changes in procurement policies, budget considerations and political developments in the United States or abroad. For example, if the U.S. government is less focused on defense spending or there is a decrease in hostilities, demand for our products could decrease. The loss of funding for a government program would result in a loss of future revenues attributable to that program. The influence of any of these factors, which are beyond our control, could negatively impact our results of operations.

A significant portion of our U.S. government revenue is derived from fixed-price development and production contracts. Under fixed-price contracts, unexpected increases in the cost to develop or manufacture a product, whether due to inaccurate estimates in the bidding process, unanticipated increases in material costs, reduced production volumes, inefficiencies or other factors, are borne by us. We have experienced cost overruns in the past that have resulted in losses on certain contracts, and may experience additional cost overruns in the future. We are required to recognize the total estimated impact of cost overruns in the period in which they are first identified. Such cost overruns could have a material adverse effect on our results of operations.

Generally, government contracts contain provisions permitting termination, in whole or in part, without prior notice at the government's convenience upon the payment of compensation only for work done and commitments made at the time of termination. We cannot ensure that one or more of the government contracts under which we, or our customers, operate will not be terminated under these circumstances. Also, we cannot ensure that we, or our customers, would be able to procure new government contracts to offset the revenues lost as a result of any termination of existing contracts, nor can we ensure that we, or our customers, will continue to remain in good standing as federal contractors.

As a U.S. government contractor we must comply with specific government rules and regulations and are subject to routine audits and investigations by U.S. government agencies. If we fail to comply with these rules and regulations, the results could include: (1) reductions in the value of our contracts; (2) reductions in amounts previously billed and recognized as revenue; (3) contract modifications or termination; (4) the assessment of penalties and fines; and (5) suspension or debarment from government contracting or subcontracting for a period of time or permanently.

Our business could be negatively impacted by cyber and other security threats or disruptions.

As a defense contractor, we face various cyber and other security threats, including espionage and attempts to gain unauthorized access to sensitive information and networks. Although we utilize various procedures and controls to monitor and mitigate the risk of these threats, there can be no assurance that these procedures and controls will be sufficient. These threats could lead to losses of sensitive information or capabilities; financial liabilities and damage to our reputation. If we are unable to maintain compliance with security standards applicable to defense contractors, we could lose business or suffer reputational harm.

Cyber threats to businesses in general are evolving and include, but are not limited to, malicious software, destructive malware, attempts to gain unauthorized access to data, disruption or denial of service attacks, and other electronic security breaches that could lead to disruptions in our systems, unauthorized release of confidential, personal or otherwise protected information (ours or that of our employees, customers or partners), and corruption of data, networks or systems. In addition, we could be impacted by cyber threats or other disruptions or vulnerabilities found in products we use or in our partners' or customers' systems that are used in connection with our business. These events, if not prevented or effectively mitigated, could damage our reputation, require remedial actions and lead to loss of business, regulatory actions, potential liability and other financial losses.

Changes to our effective tax rate affect our results of operations.

As a global company, we are subject to taxation in the United States, Singapore and various other countries. Significant judgment is required to determine and estimate worldwide tax liabilities. Our future effective tax rate could be affected by: (1) changes in tax laws; (2) the allocation of earnings to countries with differing tax rates; (3) changes in worldwide projected annual earnings in current and future years: (4) accounting pronouncements; or (5) changes in the valuation of our deferred tax assets and liabilities. Although we believe our tax estimates are reasonable, there can be no assurance that any final determination will not be different from the treatment reflected in our historical income tax provisions and accruals, which could result in additional payments by Intevac.

Our success depends on international sales and the management of global operations.

In previous years, the majority of our revenues have come from regions outside the United States. Most of our international sales are to customers in Asia, which includes products shipped to overseas operations of U.S. companies. We currently have manufacturing facilities in California and Singapore and international customer support offices in Singapore, China, and Malaysia. We expect that international sales will continue to account for a significant portion of our total revenue in future years. Certain of our suppliers are also located outside the United States.

Managing our global operations presents challenges including, but not limited to, those arising from: (1) global trade issues; (2) variations in protection of intellectual property and other legal rights in different countries; (3) concerns of U.S. governmental agencies regarding possible national commercial and/or security issues posed by growing manufacturing business in Asia; (4) fluctuation of interest rates, raw material costs, labor and operating costs, and exchange rates; (5) variations in the ability to develop relationships with suppliers and other local businesses; (6) changes in the laws and regulations of the United States, including export restrictions, and other countries, as well as their interpretation and application; (7) the need to provide technical and spares support in different locations; (8) political and economic instability; (9) cultural differences; (10) varying government incentives to promote development; (11) shipping costs and delays; (12) adverse conditions in credit markets; (13) variations in tariffs, quotas, tax codes and other market barriers; and (14) barriers to movement of cash.

We must regularly assess the size, capability and location of our global infrastructure and make appropriate changes to address these issues.

Difficulties in integrating past or future acquisitions could adversely affect our business.

We have completed a number of acquisitions and dispositions during our operating history. We have spent and may continue to spend significant resources identifying and pursuing future acquisition opportunities. Acquisitions involve numerous risks including: (1) difficulties in integrating the operations, technologies and products of the acquired companies; (2) the diversion of our management's attention from other business concerns; and (3) the potential loss of key employees of the acquired companies. Failure to achieve the anticipated benefits of the prior and any future acquisitions or to successfully integrate the operations of the companies we acquire could have a material and adverse effect on our business, financial condition and results of operations. Any future acquisitions could also result in potentially dilutive issuance of equity securities, acquisition or divestiture-related write-offs or the assumption of debt and contingent liabilities. In addition, we have made and will continue to consider making strategic divestitures. With any divestiture, there are risks that future operating results could be unfavorably impacted if targeted objectives, such as cost savings, are not achieved or if other business disruptions occur as a result of the divestiture or activities related to the divestiture.

Our success is dependent on recruiting and retaining a highly talented work force.

Our employees are vital to our success, and our key management, engineering and other employees are difficult to replace. We do not maintain key person life insurance on any of our employees. The expansion of high technology companies worldwide has increased demand and competition for qualified personnel, and has made companies increasingly protective of prior employees. It may be difficult for us to locate employees who are not subject to non-competition agreements and other restrictions.

The majority of our U.S. operations are located in California where the cost of living and of recruiting employees is high. Our operating results depend, in large part, upon our ability to retain and attract qualified management, engineering, marketing, manufacturing, customer support, sales and administrative personnel. Furthermore, we compete with industries such as the hard disk drive, semiconductor, and solar industries for skilled employees. Failure to retain existing key personnel, or to attract, assimilate or retain additional highly qualified employees to meet our needs in the future, could have a material and adverse effect on our business, financial condition and results of operations.

We are dependent on certain suppliers for parts used in our products.

We are a manufacturing business. Purchased parts constitute the largest component of our product cost. Our ability to manufacture depends on the timely delivery of parts, components and subassemblies from suppliers. We obtain some of the key components and subassemblies used in our products from a single supplier or a limited group of suppliers. If any of our suppliers fail to deliver quality parts on a timely basis, we may experience delays in manufacturing, which could result in delayed product deliveries, increased costs to expedite deliveries or develop alternative suppliers, or require redesign of our products to accommodate alternative suppliers. Some of our suppliers are thinly capitalized and may be vulnerable to failure.

Our business depends on the integrity of our intellectual property rights.

The success of our business depends upon the integrity of our intellectual property rights, and we cannot ensure that: (1) any of our pending or future patent applications will be allowed or that any of the allowed applications will be issued as patents or will issue with claims of the scope we sought; (2) any of our patents will not be invalidated, deemed unenforceable, circumvented or challenged; (3) the rights granted under our patents will provide competitive advantages to us; (4) other parties will not develop similar products, duplicate our products or design around our patents; or (5) our patent rights, intellectual property laws or our agreements will adequately protect our intellectual property or competitive position.

From time to time, we have received claims that we are infringing third parties' intellectual property rights or seeking to invalidate our rights. We cannot ensure that third parties will not in the future claim that we have infringed current or future patents, trademarks or other proprietary rights relating to our products. Any claims, with or without merit, could be time-consuming, result in costly litigation, cause product shipment delays or require us to enter into royalty or licensing agreements. Such royalty or licensing agreements, if required, may not be available on terms acceptable to us.

We could be involved in litigation.

From time to time we may be involved in litigation of various types, including litigation alleging infringement of intellectual property rights and other claims and customer disputes. Litigation is expensive, subjects us to the risk of significant damages and requires significant management time and attention and could have a material and adverse effect on our business, financial condition and results of operations.

We are subject to risks of non-compliance with environmental and other governmental regulations.

We are subject to a variety of governmental regulations relating to the use, storage, discharge, handling, emission, generation, manufacture, treatment and disposal of toxic or otherwise hazardous substances, chemicals, materials or waste. If we fail to comply with current or future regulations, such failure could result in suspension of our operations, alteration of our manufacturing process, remediation costs or substantial civil penalties or criminal fines against us or our officers, directors or employees. Additionally, these regulations could require us to acquire expensive remediation or abatement equipment and incur substantial expenses to comply with them.

Business interruptions could adversely affect our operations.

Our operations are vulnerable to interruption by fire, earthquake, floods or other natural disaster, quarantines or other disruptions associated with infectious diseases, national catastrophe, terrorist activities, war, disruptions in our computing and communications infrastructure due to power loss, telecommunications failure, human error, physical or electronic security breaches and computer viruses, and other events beyond our control. We do not have a detailed disaster recovery plan. Despite our implementation of network security measures, our tools and servers may be vulnerable to computer viruses, break-ins and similar disruptions from unauthorized tampering with our computer systems and tools located at customer sites. Political instability could cause us to incur increased costs in transportation, make such transportation unreliable, increase our insurance costs or cause international currency markets to fluctuate. All these unforeseen disruptions and instabilities could have the same effects on our suppliers and their ability to timely deliver their products. In addition, we do not carry sufficient business interruption insurance to compensate us for all losses that may occur, and any losses or damages incurred by us could have a material adverse effect on our business and results of operations. For example, we self-insure earthquake risks because we believe this is the prudent financial decision based on the high cost of the limited coverage available in the earthquake insurance market. An earthquake could significantly disrupt our operations, most of which are conducted in California. It could also significantly delay our research and engineering effort on new products, most of which is also conducted in California. We take steps to minimize the damage that would be caused by business interruptions, but there is no certainty that our efforts will prove successful.

We could be negatively affected as a result of a proxy contest and the actions of activist stockholders.

A proxy contest with respect to election of our directors, or other activist stockholder activities, could adversely affect our business because: (1) responding to a proxy contest and other actions by activist stockholders can be costly and time-consuming, disruptive to our operations and divert the attention of management and our employees; (2) perceived uncertainties as to our future direction caused by activist activities may result in the loss of potential business opportunities, and may make it more difficult to attract and retain qualified personnel and business partners; and (3) if individuals are elected to our Board of Directors with a specific agenda, it may adversely affect our ability to effectively and timely implement our strategic plans.

We are required to evaluate our internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act of 2002, and any adverse results from such evaluation could result in a loss of investor confidence in our financial reports and have an adverse effect on our stock price.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, our management must perform evaluations of our internal control over financial reporting. Beginning in 2004, our Form 10-K has included a report by management of their assessment of the adequacy of such internal control. Additionally, our independent registered public accounting firm must publicly attest to the effectiveness of our internal control over financial reporting. We have completed the evaluation of our internal controls over financial reporting as required by Section 404 of the Sarbanes-Oxley Act. Although our assessment, testing, and evaluation resulted in our conclusion that as of December 28, 2019, our internal controls over financial reporting were effective, we cannot predict the outcome of our testing in future periods. Ongoing compliance with this requirement is complex, costly and time-consuming. If Intevac fails to maintain effective internal control over financial reporting; our management does not timely assess the adequacy of such internal control; or our independent registered public accounting firm does not deliver an unqualified opinion as to the effectiveness of our internal control over financial reporting, then we could be subject to restatement of previously reported financial results, regulatory sanctions and a decline in the public's perception of Intevac, which could have a material and adverse effect on our business, financial condition and results of operations.

Item 1B. *Unresolved Staff Comments*

None.

Item 2. *Properties*

Intevac maintains its corporate headquarters in Santa Clara, California. The location, approximate size and type of facility of the principal properties are listed below. Intevac leases all of its properties and does not own any real estate.

Location	Square Footage	Principal Use
Santa Clara, CA	169,583	Corporate Headquarters; TFE and Photonics Marketing, Manufacturing, Engineering and Customer Support
Singapore	31,947	TFE Manufacturing and Customer Support
Malaysia	1,291	TFE Customer Support
Shenzhen, China	2,568	TFE Customer Support

Intevac considers these properties adequate to meet its current and future requirements. Intevac regularly assesses the size, capability and location of its global infrastructure and periodically makes adjustments based on these assessments.

Item 3. *Legal Proceedings*

From time to time, Intevac is involved in claims and legal proceedings that arise in the ordinary course of business. Intevac expects that the number and significance of these matters will increase as Intevac's business expands. Any claims or proceedings against us, whether meritorious or not, could be time consuming, result in costly litigation, require significant amounts of management time, result in the diversion of significant operational resources, or require us to enter into royalty or licensing agreements which, if required, may not be available on terms favorable to us or at all. Intevac is not presently a party to any lawsuit or proceeding that, in Intevac's opinion, is likely to seriously harm Intevac's business.

Item 4. *Mine Safety Disclosures*

Not applicable.

PART II

Item 5. *Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities*

Market Information

Intevac common stock is traded on The Nasdaq Stock Market (NASDAQ Global Select) under the symbol "IVAC." As of February 12, 2020, there were 75 holders of record.

Recent Sales of Unregistered Securities

None.

Repurchases of Intevac Common Stock

On November 21, 2013, Intevac's Board of Directors approved a stock repurchase program authorizing up to $30.0 million in repurchases. On August 15, 2018, Intevac's Board of Directors approved a $10.0 million increase to the original stock repurchase program authorizing up to $40.0 million. At December 28, 2019, $10.8 million remains available for future stock repurchases under the repurchase program. Intevac did not make any common stock repurchases during the three months ended December 28, 2019.

Item 6. *Selected Financial Data*

Not applicable for smaller reporting companies.

Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations*

Management's Discussion and Analysis (MD&A) is intended to facilitate an understanding of Intevac's business and results of operations. This MD&A should be read in conjunction with Intevac's Consolidated Financial Statements and the accompanying Notes to Consolidated Financial Statements included elsewhere in this Form 10- K. The following discussion contains forward-looking statements and should also be read in conjunction with the cautionary statement set forth at the beginning of this Form 10-K. MD&A includes the following sections:

- *Overview:* a summary of Intevac's business, measurements and opportunities.
- *Results of Operations:* a discussion of operating results.
- *Liquidity and Capital Resources:* an analysis of cash flows, sources and uses of cash, and financial position.
- *Critical Accounting Policies:* a discussion of critical accounting policies that require the exercise of judgments and estimates.

Overview

Intevac is a provider of vacuum deposition equipment for a wide variety of thin-film applications, and a leading provider of digital night-vision technologies and products to the defense industry. The Company leverages its core capabilities in high-volume manufacturing of small substrates to provide process manufacturing equipment solutions to the HDD, DCP, and solar cell industries. Intevac also provides sensors, cameras and systems for government applications such as night vision and long-range target identification. Intevac's customers include manufacturers of hard disk media, DCPs and solar cells as well as the U.S. government and its agencies, allies and contractors. Intevac reports two segments: TFE and Photonics.

Product development and manufacturing activities occur in North America and Asia. Intevac has field offices in Asia to support its TFE customers. Intevac's products are highly technical and are sold primarily through Intevac's direct sales force. Intevac also sells its products through distributors in Japan and China.

Intevac's results are driven by a number of factors including success in its equipment growth initiatives in the DCP and solar markets and by worldwide demand for HDDs. Demand for HDDs depends on the growth in digital data creation and storage, the rate of areal density improvements, the end-user demand for PCs, enterprise data storage, nearline "cloud" applications, video players and video game consoles that include such drives. Intevac continues to execute its strategy of equipment diversification into new markets by introducing new products, such as for a thin-film PVD application for protective coating for DCP manufacturing and a thin-film PVD application for PV solar cell manufacturing. Intevac believes that expansion into these markets will result in incremental equipment revenues for Intevac and decrease Intevac's dependence on the HDD industry. Intevac's equipment business is subject to cyclical industry conditions, as demand for manufacturing equipment and services can change depending on supply and demand for HDDs, cell phones, and PV cells as well as other factors such as global economic conditions and technological advances in fabrication processes.

Fiscal Year	**2019**	**2018**	**Change 2019 vs. 2018**
	(in thousands, except percentages and per share amounts)		
Net revenues	$108,885	$95,114	$ 13,771
Gross profit	$ 40,868	$32,694	$ 8,174
Gross margin percent	37.5%	34.4%	3.1 points
Operating income (loss)	$ 3,925	$ (4,217)	$ 8,142
Net income	$ 1,148	$ 3,581*	$ (2,433)
Net income per diluted share	$ 0.05	$ 0.16*	$ (0.11)

* The Company's results for fiscal 2018 included the reversal of the valuation allowance recorded against the deferred tax assets in Singapore. This reversal resulted in the recognition of a non-cash income tax benefit in the fourth quarter of 2018 of $7.9 million, or $0.35 per diluted share.

Fiscal 2018 financial results reflected a challenging environment. In 2018, Intevac recognized revenue on four 200 Lean HDD systems as our HDD customer upgraded the technology level of their manufacturing capacity. In 2018, Intevac recognized revenue on the three solar implant ENERG*i* systems shipped in the previous year. Photonics continued to deliver production shipments of the night-vision camera modules for the F35 Joint Strike Fighter program in fiscal 2018. With the completion of the Apache program in 2017, the Photonics revenue profile moved from a product-driven one to a funded R&D revenue profile. Photonics margins and operating results were negatively impacted by a higher-mix of lower margin technology development contracts versus product sales. Fiscal 2018 net income reflected recognition of an income tax benefit and lower operating expenses due to cost containment activities put in place in the first quarter of fiscal 2018, offset in part by lower net revenues and lower gross margins. During fiscal 2018, the Company reversed the valuation allowance recorded against the deferred tax assets related to its Singapore operations. This reversal resulted in the recognition of a non-cash income tax benefit of $7.9 million. During fiscal 2018, the Company did not recognize an income tax benefit on its U.S. net operating loss.

Fiscal 2019 financial results reflected an improved environment as the Company resumed its growth trajectory. Fiscal 2019 HDD equipment sales were slightly lower than 2018. Intevac recognized revenue on four 200 Lean HDD systems with an additional two in backlog at the end of the year. In 2019, Intevac recognized revenue on nine solar implant ENERG*i* systems. We also made significant progress in our TFE growth initiatives, placing evaluation tools with leading manufacturers in both the display cover glass market and the advanced semiconductor packaging market. In fiscal 2019, Photonics business levels were higher compared to the prior year due primarily to the $31.6 million U.S. Army IVAS contract award. Photonics continued to deliver production shipments of the night-vision camera modules for the F35 Joint Strike Fighter program in fiscal 2019 and resumed shipments of the Apache camera in the second half of 2019. Fiscal 2019 net income was the result of higher net revenues and higher gross margins. During 2019, the Company received an unfavorable decision on its appeal to a tax audit in Singapore and although management has decided to appeal this decision, management determined that the Company could no longer support a more likely than not position. Accordingly, the Company recorded a charge of $732,000 which is included in the provision for income taxes. During fiscal 2019, the Company did not recognize an income tax benefit on its U.S. net operating loss.

We believe that we will continue to be profitable in fiscal 2020. Intevac expects that HDD equipment sales will be down from 2019 levels as a HDD manufacturer takes delivery of the two 200 Lean HDD systems in backlog. In 2020, Intevac expects higher sales of new TFE products as we expect to: (i) convert at least one of the two systems under evaluation at customer factories to revenue and (ii) obtain follow on production orders for our VERTEX coating system for DCPs and our solar implant ENERG*i* system. The second evaluation system at a customer factory is expected to convert to revenue in 2021. In 2020, we expect Increased product revenue in Photonics as we continue to deliver product shipments of the Apache camera and the night-vision camera modules for the F35 Joint Strike Fighter program. In 2020, we expect increased contract R&D revenue as development work continues on the multi-year IVAS contract award for the development and production of digital night-vision cameras to support the U.S. Army's IVAS program. For fiscal 2020, Intevac expects that Photonics profits will be higher than fiscal 2019 as Photonics results will reflect higher revenue levels.

Results of Operations

Net revenues

	2019	2018	Change 2019 vs. 2018
		(in thousands)	
TFE	$ 73,678	$69,348	$ 4,330
Photonics			
Products	15,550	15,972	(422)
Contract R&D	19,657	9,794	9,863
	35,207	25,766	9,441
Total net revenues	$108,885	$95,114	$13,771

Net revenues consist primarily of sales of equipment used to manufacture thin-film disks, PV cells, DCPs and related equipment and system components; sales of low-light imaging products; and revenue from contract R&D related to the development of electro-optical sensors, cameras and systems.

The increase in TFE revenues in fiscal 2019 versus fiscal 2018 was due primarily to higher systems sales as TFE recognized revenue on four 200 Lean HDD systems and nine solar implant ENERG*i* systems, offset in part by decreases in revenue recognized on technology upgrades, service and spare parts. In fiscal 2018, TFE revenue recognized four 200 Lean HDD systems and three solar implant ENERG*i* systems as well as technology upgrades, service and spare parts.

Photonics revenues increased by 36.6% to $35.2 million in fiscal 2019 versus fiscal 2018. Photonics product revenue reflected the resumption of the Apache camera shipments and higher unit shipments for the F35 Joint Strike Fighter program night-vision camera. Contract R&D revenue in fiscal 2019 increased as a result of development on the IVAS program.

Backlog

	December 28, 2019	December 29, 2018
	(in thousands)	
TFE	$21,391	$ 64,803
Photonics	71,015	43,711
Total backlog	$92,406	$108,514

TFE backlog at December 28, 2019 included two 200 Lean HDD systems. TFE backlog at December 29, 2018 included six 200 Lean HDD systems and nine ENERG*i* solar ion implant systems.

Significant portions of Intevac's revenues in any particular period have been attributable to sales to a limited number of customers. The following customers accounted for at least 10 percent of Intevac's consolidated net revenues in fiscal 2019 and 2018.

	2019	2018
Seagate Technology	49%	52%
U.S. Government	20%	*
Jolywood (Hongkong) Industrial Holdings Co., Limited	14%	*
HGST	*	13%

* Less than 10%

Revenue by geographic region

	2019			2018		
	(in thousands)					
	TFE	Photonics	Total	TFE	Photonics	Total
United States	$ 1,306	$34,664	$ 35,970	$ 4,050	$23,862	$27,912
Asia	72,372	—	72,372	65,298	31	65,329
Europe	—	543	543	—	1,648	1,648
Rest of World	—	—	—	—	225	225
Total net revenues	$73,678	$35,207	$108,885	$69,348	$25,766	$95,114

International sales include products shipped to overseas operations of U.S. companies. The increase in sales to the U.S. region in 2019 versus 2018 reflected higher Photonics contract R&D work. There were no TFE systems sold to factories in the U.S. in 2019 or 2018.

The increase in sales to the Asia region in 2019 versus 2018 reflected higher system sales, offset in part by lower technology upgrade, service and spare parts sales. Sales to the Asia region in 2019 included four 200 Lean HDD systems and nine solar implant ENERG*i* systems. Sales to the Asia region in 2018 included four 200 Lean HDD systems and three solar implant ENERG*i* systems.

Sales to the Europe region and Rest of World in 2019 and 2018 were not significant.

Gross margin

	Fiscal Year 2019	Fiscal Year 2018	Change 2019 vs. 2018
	(in thousands, except percentages)		
TFE gross profit	$27,377	$25,328	$2,049
% of TFE net revenues	37.2%	36.5%	
Photonics gross profit	$13,491	$ 7,366	$6,125
% of Photonics net revenues	38.3%	28.6%	
Total gross profit	$40,868	$32,694	$8,174
% of net revenues	37.5%	34.4%	

Cost of net revenues consists primarily of purchased materials and costs attributable to contract R&D, and also includes assembly, test and installation labor and overhead, customer-specific engineering costs, warranty costs, royalties, provisions for inventory reserves and scrap.

TFE gross margin was 37.2% in fiscal 2019 compared to 36.5% in fiscal 2018. Fiscal 2019 gross margins improved over fiscal 2018 as higher margins on upgrades were offset in part by lower margins on the sale of nine solar implant ENERG*i* systems. Gross margins in the TFE business vary depending on a number of factors, including product mix, product cost, system configuration and pricing, factory utilization, and provisions for excess and obsolete inventory.

Photonics gross margin was 38.3% in fiscal 2019 compared to 28.6% in fiscal 2018. The improvement in gross margin for fiscal 2019 over fiscal 2018 is due primarily to higher revenue levels and improved margins on contract R&D work. Manufacturing costs for digital night-vision products decreased in fiscal 2019 and 2018 as a result of cost reductions and yield improvements.

Research and development

	Fiscal Year 2019	Fiscal Year 2018	Change 2019 vs. 2018
	(in thousands)		
Research and development expense	$14,309	$16,862	$(2,553)

Research and development expense consists primarily of salaries and related costs of employees engaged in and prototype materials used in ongoing research, design and development activities for PV cell manufacturing equipment, DCP manufacturing equipment, HDD disk sputtering equipment, semiconductor Fan-out equipment and Photonics products.

TFE research and development spending in fiscal 2019 decreased compared to fiscal 2018 due to lower spending on semiconductor Fan-out development.

Research and development spending for Photonics increased during 2019 as compared to fiscal 2018 primarily related to the development of the next generation of our low light level CMOS camera. Research and development expenses do not include costs of $12.3 million and $9.1 million in 2019 and 2018, respectively, which are related to customer-funded contract R&D programs and therefore included in cost of net revenues.

Selling, general and administrative

	Fiscal Year 2019	Fiscal Year 2018	Change 2019 vs. 2018
	(in thousands)		
Selling, general and administrative expense	$22,627	$20,188	$2,439

Selling, general and administrative expense consists primarily of selling, marketing, customer support, financial and management costs. All domestic sales and the majority of international sales of HDD disk sputtering products in Asia are made through Intevac's direct sales force. Intevac also sells its TFE products through distributors in Japan and China. Intevac has offices in Singapore, Malaysia and China to support Intevac's TFE customers in Asia.

Selling, general and administrative expenses increased in 2019 over the amount spent in 2018 due to higher variable compensation costs, increased spending to support a customer evaluation of a next generation product and the lapse of the 2018 cost containment initiatives which included temporary salary reductions for executive management.

Acquisition-related (benefit), net

	Fiscal Year		Change
	2019	2018	2019 vs. 2018
	(in thousands)		
Acquisition-related (benefit), net	$7	$(139)	$146

Acquisition-related (benefit), net, represents the change in the fair value of a contingent consideration earnout arrangement related to the SIT acquisition. The earnout period terminated on June 30, 2019.

Cost reduction plan

During the first quarter of fiscal 2018, Intevac substantially completed implementation of the 2018 cost reduction plan (the "2018 Plan"), which reduced expenses and reduced its workforce by 6 percent. The total cost of implementing the 2018 Plan was $95,000 of which $61,000 was reported under cost of net revenues and $34,000 was reported under operating expenses. Substantially all cash outlays in connection with the 2018 Plan were completed in fiscal 2018. Implementation of the 2018 Plan reduced salary, wages and other employee-related expenses by approximately $1.8 million on an annual basis.

Interest income and other income (expense), net

	Fiscal Year		Change
	2019	2018	2019 vs. 2018
	(in thousands)		
Interest income and other income (expense), net	$582	$622	$(40)

Interest income and other income (expense), net in fiscal 2019 included $574,000 of interest income on investments and $20,000 earnout income from a divestiture, offset in part by $85,000 of foreign currency losses. Interest income and other, net in fiscal 2018 included $516,000 of interest income on investments and $135,000 earnout income from a divestiture, offset in part by $80,000 of foreign currency losses. The increase in interest income in 2019 over 2018 reflected higher interest rates on Intevac's investments and higher invested balances.

Provision for (benefit from) income taxes

	Fiscal Year		Change
	2019	2018	2019 vs. 2018
	(in thousands)		
Provision for (benefit from) income taxes	$3,359	$(7,176)	$10,535

During fiscal 2018 the Company reversed the valuation allowance recorded against the deferred tax assets related to its Singapore operations. This reversal resulted in the recognition of a non-cash income tax benefit of $7.9 million.

During 2019 the Company received an unfavorable decision on its appeal to a tax audit in Singapore and although management plans to pursue an appeal to the Singapore High Court, management determined that the Company could no longer support a more likely than not position. Accordingly, the Company recorded a charge of $732,000 in provision for income taxes.

Intevac's effective income tax rate was 74.5% for fiscal 2019 and 199.6% for fiscal 2018. Our effective income tax rate in 2018, excluding the impact of the reduction in our deferred income tax asset valuation allowance was (20.4%). Intevac's tax rate differs from the applicable statutory rates due primarily to establishment and reversal of a valuation allowance, the utilization of deferred and current credits and the effect of permanent differences, adjustments of prior permanent differences and changes in estimates of uncertain tax positions. Intevac's future effective income tax rate depends on various factors including, the level of

Intevac's projected earnings, the geographic composition of worldwide earnings, tax regulations governing each region, net operating loss carry forwards, availability of tax credits and the effectiveness of Intevac's tax planning strategies. Management carefully monitors these factors and timely adjusts the effective income tax rate accordingly.

In fiscal 2014, a valuation allowance of $9.4 million was established on a portion of the Singapore deferred tax asset. The Company concluded that, as of December 29, 2018, it is more likely than not that the Company will generate sufficient taxable income in Singapore to realize its deferred tax assets and reversed the valuation allowance during the fourth quarter of 2018. This reversal resulted in the recognition of a non-cash income tax benefit of $7.9 million for fiscal 2018. The Company has considered all positive and negative evidence regarding the ability to fully realize the deferred tax asset, including past operating results and the forecast of future taxable income. This conclusion, and the resulting reversal of the deferred tax asset valuation allowance, is based upon consideration of a number of factors, including the Company's completion of 7 consecutive quarters of profitability and its forecast of future profitability under multiple scenarios that support the utilization of net operating loss carryforwards. After recognizing the reversal, the Company does not have a remaining valuation allowance against the deferred tax assets in Singapore at December 28, 2019.

In fiscal 2012, a valuation allowance of $23.4 million was established to record the portion of the U.S. federal deferred tax asset that more likely than not will not be realized. For fiscal 2019 a valuation allowance decrease of $689,000 and for fiscal 2018 a valuation allowance increase of $930,000, respectively, were recorded for the U.S. federal deferred tax asset. A valuation allowance is recorded against the entire state deferred tax asset which consists of state income tax temporary differences and deferred research and other tax credits that are not realizable in the foreseeable future. The amount of the deferred tax asset considered realizable, however, could be adjusted if estimates of future taxable income during the carryforward period are reduced or increased, or if objective negative evidence in the form of cumulative losses is no longer present and additional weight may be given to subjective evidence such as our projections for growth.

Liquidity and Capital Resources

At December 28, 2019, Intevac had $42.8 million in cash, cash equivalents, restricted cash and investments compared to $40.3 million at December 29, 2018. During fiscal 2019, cash, cash equivalents, restricted cash and investments increased by $2.5 million due primarily to cash generated by operating activities and cash received from the sale of Intevac common stock to Intevac's employees through Intevac's employee benefit plans, offset in part by cash used for repurchases of common stock, purchases of fixed assets and tax payments related to the net share settlement of restricted stock units.

Cash, cash equivalents, restricted cash and investments consist of the following:

	December 28, 2019	December 29, 2018
	(in thousands)	
Cash and cash equivalents	$19,767	$18,715
Restricted cash	787	1,169
Short-term investments	16,720	16,076
Long-term investments	5,537	4,372
Total cash, cash-equivalents, restricted cash and investments	$42,811	$40,332

Cash generated by operating activities totaled $4.9 million in 2019. Cash used in operating activities totaled $1.7 million in 2018. Improved operating cash flow in 2019 was a result of net income and improved working capital.

Accounts receivable totaled $28.6 million at December 28, 2019 compared to $27.7 million at December 29, 2018. Customer advances for products that had not been shipped to customers and included in accounts receivable were $201,000 at December 28, 2019 compared to $3.7 million at December 29, 2018. The number of days outstanding for Intevac's accounts receivable was 72 at December 28, 2019 compared to 78 at December 29, 2018. Net inventories totaled $24.9 million at December 28, 2019 compared to $30.6 million at December 29, 2018. Net inventories at December 28, 2019 included one VERTEX SPECTRA system for DCP under evaluation in a customer's factory and one MATRIX PVD system for advance semiconductor packaging under evaluation in a customer's factory. Net inventories at December 29, 2018 included three ENERG*i* implant systems in finished goods and one ENERG*i* implant system in work in process that were virtually complete and shipped to the customer in January 2019. Inventory turns were 2.5 in fiscal 2019 and were 2.2 in fiscal 2018. Accounts payable decreased to $4.2 million at December 28, 2019 compared to $6.1 million at December 29, 2018 due to lower manufacturing activities at the end of the year. Other accrued liabilities decreased to $3.6 million at December 28, 2019 compared to $5.0 million at December 29, 2018 primarily due to lower deferred revenue balances. Other accrued liabilities at December 29, 2018 included $1.1 million in deferred revenue related to the recognition of the ASC 606 transition adjustment. Accrued payroll and related liabilities increased to $6.5 million at December 28, 2019 compared to $4.7 million at December 29, 2018 as a result of higher variable compensation accruals. Customer advances decreased from $14.3 million at December 29, 2018 to $4.0 million at December 28, 2019 as a result of recognition of revenue.

Investing activities used cash of $5.8 million in 2019 and $1.0 million in 2018. Purchases of investments net of proceeds from sales and maturities of investments, totaled $1.7 million in 2019. Proceeds from sales and maturities of investments net of purchases of investments, totaled $2.2 million in 2018. Capital expenditures were $4.1 million in 2019 and $3.2 million in 2018.

Financing activities generated cash of $1.5 million in 2019 and $1.8 million in 2018. The sale of Intevac common stock to Intevac's employees through Intevac's employee benefit plans provided $2.3 million in 2019 and $3.2 million in 2018. Tax payments related to the net share settlement of restricted stock units were $404,000 in 2019 and $831,000 in 2018. In November 2013, Intevac's Board of Directors approved a stock repurchase program authorizing up to $30 million in repurchases. On August 15, 2018, Intevac's Board of Directors approved a $10.0 million increase to the original stock repurchase program authorizing up to $40.0 million in repurchases. Cash used to repurchase common stock totaled $111,000 in 2019 and $558,000 in 2018.

In connection with the acquisition of SIT, Intevac agreed to pay to the selling shareholders in cash a revenue earnout on Intevac's net revenue from commercial sales of certain solar implant products over a specified period up to an aggregate of $9.0 million. The earnout period terminated on June 30, 2019. Payments made associated with the revenue earnout obligation were $230,000 in 2019.

Intevac's investment portfolio consists principally of investment grade money market mutual funds, U.S. treasury and agency securities, certificates of deposit, commercial paper, municipal bonds and corporate bonds. Intevac regularly monitors the credit risk in its investment portfolio and takes measures, which may include the sale of certain securities, to manage such risks in accordance with its investment policies.

As of December 28, 2019, approximately $11.6 million of cash and cash equivalents and $3.4 million of short term investments were domiciled in foreign tax jurisdictions. Intevac expects a significant portion of these funds to remain off shore in the short term. If the Company chose to repatriate these funds to the United States, it would be required to accrue and pay additional taxes on any portion of the repatriation subject to foreign withholding taxes.

Intevac believes that its existing cash, cash equivalents and investments will be sufficient to meet Intevac's cash requirements for the next 12 months. Intevac intends to undertake approximately $6.0 million in capital expenditures during the next 12 months.

Off-Balance Sheet Arrangements

Off-balance sheet firm commitments relating to outstanding letters of credit amounted to approximately $787,000 as of December 28, 2019. These letters of credit and bank guarantees are collateralized by $787,000 of restricted cash. We do not maintain any other off-balance sheet arrangements, transactions, obligations, or other relationships that would be expected to have a material current or future effect on the consolidated financial statements.

Critical Accounting Policies

The preparation of consolidated financial statements and related disclosures in conformity with accounting principles generally accepted in the United States of America requires management to make judgments, assumptions and estimates that affect the amounts reported. Note 1 of Notes to Consolidated Financial Statements describes the significant accounting policies used in the preparation of the consolidated financial statements. Certain of these significant accounting policies are considered to be critical accounting policies.

A critical accounting policy is defined as one that is both material to the presentation of Intevac's consolidated financial statements and requires management to make difficult, subjective or complex judgments that could have a material effect on Intevac's financial condition or results of operations. Specifically, these policies have the following attributes: (1) Intevac is required to make assumptions about matters that are highly uncertain at the time of the estimate; and (2) different estimates Intevac could reasonably have used, or changes in the estimate that are reasonably likely to occur, would have a material effect on Intevac's financial condition or results of operations.

Estimates and assumptions about future events and their effects cannot be determined with certainty. Intevac bases its estimates on historical experience and on various other assumptions believed to be applicable and reasonable under the circumstances. These estimates may change as new events occur, as additional information is obtained and as Intevac's operating environment changes. These changes have historically been minor and have been included in the consolidated financial statements as soon as they became known. In addition, management is periodically faced with uncertainties, the outcomes of which are not within its control and will not be known for prolonged periods of time. These uncertainties are discussed in the section above entitled "Risk Factors." Based on a critical assessment of its accounting policies and the underlying judgments and uncertainties affecting the application of those policies, management believes that Intevac's consolidated financial statements are fairly stated in accordance with accounting principles generally accepted in the United States of America, and provide a meaningful presentation of Intevac's financial condition and results of operations.

Management believes that the following are critical accounting policies:

Revenue Recognition

In our TFE segment, a majority of our equipment sales revenue continues to be recognized when products are shipped from our manufacturing facilities. Revenue recognition for our equipment sales arrangements, which includes systems, technology upgrades, service and spare parts, remains materially consistent with our historical practice.

In our TFE segment, we recognize revenue for equipment sales at a point in time following the transfer of control of such products to the customer, which typically occurs upon shipment or delivery depending on the terms of the underlying contracts. Our contracts with customers may include multiple performance obligations. For such arrangements, under the new revenue standard we allocate revenue to each performance obligation based on its relative standalone selling price. We generally determine standalone selling prices based on the prices charged to customers or by using expected cost plus margin. Under the new revenue standard, the expected costs associated with our base warranties continue to be recognized as expense when the equipment is sold.

In our Photonics segment, we recognize revenue for cost plus fixed fee ("CPFF") and firm fixed price ("FFP") government contracts over time under the cost-to-cost method for the majority of our government contracts, which is consistent with our historical revenue recognition model. Revenue on the majority of our government contracts will continue to be recognized over time because of the continuous transfer of control to the customer. For U.S. government contracts, this continuous transfer of control to the customer is supported by clauses in the contract that allow the customer to unilaterally terminate the contract for convenience, pay us for costs incurred plus a reasonable profit and take control of any work in process. Similarly, for non-U.S. government contracts, the customer typically controls the work in process as evidenced either by contractual termination clauses or by our rights to payment for work performed to date to deliver products or services that do not have an alternative use to the Company. Under the new standard, the cost-to-cost measure of progress continues to best depict the transfer of control of assets to the customer, which occurs as we incur costs.

The majority of our contracts in our Photonics segment have a single performance obligation as the promise to transfer the individual goods or services is not separately identifiable from other promises in the contracts and, therefore, not distinct. Some of our contracts have multiple performance obligations, most commonly due to the contract covering multiple phases of the product lifecycle (development and production). For contracts with multiple performance obligations, we allocate the contract's transaction price to each performance obligation using our best estimate of the standalone selling price of each distinct good or service in the contract. The primary method used to estimate standalone selling price is the expected cost plus a margin approach, under which we forecast our expected costs of satisfying a performance obligation and then add an appropriate margin for that distinct good or service.

In our Photonics segment, we recognize revenue for homogenous manufactured military products sold to the U.S. government and its contractors over time under the units-of-delivery method because of the continuous transfer of control to the customer. Intevac believes that the units-of-delivery method is an appropriate measure for measuring progress for the manufactured units as an equal amount of value is individually transferred to the customer upon delivery. The Company previously recognized revenue for substantially all manufactured military products sold to the U.S. government and its contractors when the customers took delivery of the products, which was generally upon shipment.

The nature of our contracts in our Photonics segment gives rise to several types of variable consideration including tiered pricing. Allocation of contract revenues among Photonics military products, and the timing of the recognition of those revenues, is impacted by agreements with tiered pricing or variable rate structures. We include variable consideration in the estimated transaction price when there is a basis to reasonably estimate the amount of the consideration. These estimates are based on historical experience, anticipated performance and our best judgment at the time. Because of our certainty in estimating these amounts, they are included in the transaction price of our contracts and the associated remaining performance obligations.

Accounting for CPFF and FFP contracts and programs involves the use of various techniques to estimate total contract revenue and costs. For these contracts, we estimate the profit on a contract as the difference between the total estimated revenue and expected costs to complete a contract and recognize that profit over the life of the contract. Contract estimates are based on various assumptions to project the outcome of future events. These assumptions include the complexity of the work to be performed; the cost and availability of materials; the performance of subcontractors; and the availability and timing of funding from the customer.

As a significant change in one or more of these estimates could affect the profitability of our contracts, we review and update our contract-related estimates regularly. We recognize adjustments in estimated profit on contracts under the cumulative catch-up method. Under this method, the impact of the adjustment on profit recorded to date on a contract is recognized in the period the adjustment is identified. Revenue and profit in future periods of contract performance are recognized using the adjusted estimate. If at any time the estimate of contract profitability indicates an anticipated loss on the contract, we recognize the total loss in the quarter it is identified.

Inventories

Inventories are valued using average actual costs and are stated at the lower of cost or net realizable value. The carrying value of inventory is reduced for estimated obsolescence by the difference between its cost and the net realizable value based upon assumptions about future demand. Intevac evaluates the inventory carrying value for potential excess and obsolete inventory exposures by analyzing historical and anticipated demand. In addition, inventories are evaluated for potential obsolescence due to the effect of known and anticipated engineering change orders and new products. If actual demand were to be substantially lower than estimated, additional inventory adjustments for excess or obsolete inventory might be required, which could have a material adverse effect on Intevac's business, financial condition and results of operations.

Warranty

Intevac estimates the costs that may be incurred under the warranty it provides and records a liability in the amount of such costs at the time the related revenue is recognized. Estimated warranty costs are determined by analyzing specific product and historical configuration statistics and regional warranty support costs. Intevac's warranty obligation is affected by product failure rates, material usage, and labor costs incurred in correcting product failures during the warranty period. As Intevac's customer service engineers and process support engineers are highly trained and deployed globally, labor availability is a significant factor in determining labor costs. The quantity and availability of critical replacement parts is another significant factor in estimating warranty costs. Unforeseen component failures or exceptional component performance can also result in changes to warranty costs. If actual warranty costs differ substantially from our estimates, revisions to the estimated warranty liability would be required.

Income Taxes

Intevac accounts for income taxes by recognizing deferred tax assets and liabilities using enacted tax rates for the effect of temporary differences between the book and tax bases of recorded assets and liabilities, net operating losses and tax credit carryforwards. Deferred tax assets are also reduced by a valuation allowance if it is more likely than not that a portion of the deferred tax asset will not be realized. Management has determined that it is more likely than not that its future taxable income will not be sufficient to realize its entire deferred tax assets.

In determining whether to establish or maintain a valuation allowance against a deferred tax asset, the Company reviews available evidence to determine whether it is more likely than not that all or a portion of the Company's net deferred tax assets will be realized in future periods. Consideration is given to various positive and negative factors that could affect the realization of the net deferred tax assets. In making such a determination, the Company considers, among other things, future reversals of existing taxable temporary differences, projected future taxable income, tax-planning strategies, historical financial performance, the length of statutory carry forward periods, experience with operating loss and tax credit carry forwards not expiring unused. If the Company determines that it would be able to realize its deferred tax assets in the future in excess of their net recorded amount, the Company would make an adjustment to the deferred tax asset valuation allowance, which would reduce the provision for income taxes.

The effective tax rate is highly dependent upon the geographic composition of worldwide earnings, tax regulations governing each region, non-tax deductible expenses and availability of tax credits. Management carefully monitors the changes in many factors and adjusts the effective income tax rate as required. If actual results differ from these estimates, Intevac could be required to record additional valuation allowances on deferred tax assets or adjust its effective income tax rate, which could have a material adverse effect on Intevac's business, financial condition and results of operations.

The calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of complex tax laws. Resolution of these uncertainties in a manner inconsistent with Intevac's expectations could have a material impact on Intevac's results of operations and financial condition.

Valuation of Acquisition-Related Contingent Consideration

Contingent consideration related to a business combination is recorded at the acquisition date at the estimated fair value of the contingent payments. The acquisition date fair value is measured based on the consideration expected to be transferred (probability-weighted), discounted back to present value. The discount rate used is determined at the time of the acquisition in accordance with accepted valuation methods. The fair value of the acquisition-related contingent consideration is remeasured at the estimated fair value at each reporting period with the change in fair value recognized as income or expense in the consolidated statements of income.

Equity-Based Compensation

Intevac records compensation expense for equity-based awards using the Black-Scholes option pricing model. This model requires Intevac to estimate the expected volatility of the price of Intevac's common stock and the expected life of the equity-based awards. Estimating volatility and expected life requires significant judgment and an analysis of historical data. Intevac accounts for forfeitures as they occur rather than estimating expected forfeitures. Intevac may have to increase or decrease compensation expense for equity-based awards if actual results differ significantly from Intevac's estimates.

Item 7A. ***Quantitative and Qualitative Disclosures About Market Risk***

Not applicable for smaller reporting companies.

Item 8. ***Financial Statements and Supplementary Data***

INTEVAC, INC.

CONSOLIDATED FINANCIAL STATEMENTS

Contents

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
Intevac, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Intevac, Inc. (a Delaware corporation) and its subsidiaries (the "Company") as of December 28, 2019 and December 29, 2018, and the related consolidated statements of income, comprehensive income, stockholders' equity, and cash flows for each of the two years in the period ended December 28, 2019, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 28, 2019 and December 29, 2018, and the results of its operations and its cash flows for each of the two years in the period ended December 28, 2019, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 28, 2019, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated February 12, 2020, expressed an unqualified opinion.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company changed its method of accounting for leases in 2019 due to the adoption of the new lease standard.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ BPM LLP

We have served as the Company's auditor since 2015.

San Jose, California
February 12, 2020

INTEVAC, INC.
CONSOLIDATED BALANCE SHEETS

	December 28, 2019	December 29, 2018
	(In thousands, except par value)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 19,767	$ 18,715
Short-term investments	16,720	16,076
Trade and other accounts receivable, net of allowances of $0 at both December 28, 2019 and December 29, 2018	28,619	27,717
Inventories	24,907	30,597
Prepaid expenses and other current assets	1,504	2,528
Total current assets	91,517	95,633
Property, plant and equipment, net	11,598	11,198
Operating lease right-of-use-assets	10,279	—
Long-term investments	5,537	4,372
Restricted cash	787	1,169
Intangible assets, net of amortization of $8,113 and $7,498 at December 28, 2019 and December 29, 2018, respectively	274	889
Deferred income taxes and other long-term assets	6,330	8,809
Total assets	$126,322	$122,070
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current operating lease liabilities	$ 2,524	$ —
Accounts payable	4,199	6,053
Accrued payroll and related liabilities	6,488	4,689
Other accrued liabilities	3,593	4,952
Customer advances	4,007	14,314
Total current liabilities	20,811	30,008
Noncurrent liabilities:		
Noncurrent operating lease liabilities	9,532	—
Other long-term liabilities	186	2,438
Total noncurrent liabilities	9,718	2,438
Commitments and contingencies		
Stockholders' equity:		
Undesignated preferred stock, $0.001 par value, 10,000 shares authorized, no shares issued and outstanding	—	—
Common stock, $0.001 par value :		
Authorized shares—50,000 issued and outstanding shares—23,346 and 22,700 at December 28, 2019 and December 29, 2018, respectively	23	23
Additional paid-in capital	188,290	183,204
Treasury stock, 4,989 shares at December 28, 2019 and 4,965 shares at December 29, 2018	(29,158)	(29,047)
Accumulated other comprehensive income	424	378
Accumulated deficit	(63,786)	(64,934)
Total stockholders' equity	95,793	89,624
Total liabilities and stockholders' equity	$126,322	$122,070

See accompanying notes.

INTEVAC, INC.
CONSOLIDATED STATEMENTS OF INCOME

	Year Ended,	
	December 28, 2019	December 29, 2018
	(In thousands, except per share amounts)	
Net revenues:		
Systems and components	$ 89,228	$85,320
Technology development	19,657	9,794
Total net revenues	108,885	95,114
Cost of net revenues:		
Systems and components	55,678	53,334
Technology development	12,339	9,086
Total cost of net revenues	68,017	62,420
Gross profit	40,868	32,694
Operating expenses:		
Research and development	14,309	16,862
Selling, general and administrative	22,627	20,188
Acquisition-related (benefit), net	7	(139)
Total operating expenses	36,943	36,911
Operating income (loss)	3,925	(4,217)
Interest income	574	516
Other income (expense), net	8	106
Income (loss) before income taxes	4,507	(3,595)
Provision for (benefit from) income taxes	3,359	(7,176)
Net income	$ 1,148	$ 3,581
Net income per share:		
Basic	$ 0.05	$ 0.16
Diluted	$ 0.05	$ 0.16
Weighted average shares outstanding:		
Basic	23,063	22,519
Diluted	23,340	22,904

See accompanying notes.

INTEVAC, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Year Ended,	
	December 28, 2019	December 29, 2018
	(In thousands)	
Net income	$1,148	$3,581
Other comprehensive income (loss), before tax		
Change in unrealized net gain on available-for-sale investments	70	18
Foreign currency translation gains and (losses)	(24)	(130)
Other comprehensive income (loss), before tax	46	(112)
Income tax expense related to items in other comprehensive income (loss)	—	—
Other comprehensive income (loss), net of tax	46	(112)
Comprehensive income	$1,194	$3,469

See accompanying notes.

INTEVAC, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands)

	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Treasury Stock Shares	Treasury Stock Amount	Accumulated Other Comprehensive Income	Accumulated Deficit	Total Stockholders' Equity
Balance at December 30, 2017	21,811	$ 22	$177,521	4,845	$(28,489)	$ 490	$(66,881)	$82,663
Cumulative effect of accounting change	—	—	—	—	—	—	(1,634)	(1,634)
Shares issued in connection with:								
Exercise of stock options	323	—	1,573	—	—	—	—	1,573
Settlement of RSUs	434	—	—	—	—	—	—	—
Employee stock purchase plan	411	1	1,634	—	—	—	—	1,635
Shares withheld in connection with net share settlement of RSUs	(159)	—	(831)	—	—	—	—	(831)
Equity-based compensation expense	—	—	3,307	—	—	—	—	3,307
Net income	—	—	—	—	—	—	3,581	3,581
Other comprehensive loss	—	—	—	—	—	(112)	—	(112)
Common stock repurchases	(120)	—	—	120	(558)	—	—	(558)
Balance at December 29, 2018	22,700	$ 23	$183,204	4,965	$(29,047)	$ 378	$(64,934)	$89,624
Shares issued in connection with:								
Exercise of stock options	175	—	799	—	—	—	—	799
Settlement of RSUs	199	—	—	—	—	—	—	—
Employee stock purchase plan	370	—	1,466	—	—	—	—	1,466
Shares withheld in connection with net share settlement of RSUs	(74)	—	(404)	—	—	—	—	(404)
Equity-based compensation expense	—	—	3,225	—	—	—	—	3,225
Net income	—	—	—	—	—	—	1,148	1,148
Other comprehensive income	—	—	—	—	—	46	—	46
Common stock repurchases	(24)	—	—	24	(111)	—	—	(111)
Balance at December 28, 2019	23,346	$ 23	$188,290	4,989	$(29,158)	$ 424	$(63,786)	$95,793

See accompanying notes.

INTEVAC, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended	
	December 28, 2019	December 29, 2018
	(In thousands)	
Operating activities		
Net income	$ 1,148	$ 3,581
Adjustments to reconcile net income to net cash and cash equivalents provided by (used in) operating activities:		
Depreciation & amortization	2,976	3,999
Net amortization (accretion) of investment premiums and discounts	(75)	(97)
Amortization of intangible assets	615	615
Equity-based compensation	3,225	3,307
Straight-line rent adjustment and amortization of lease incentives	(289)	(31)
Deferred income taxes	1,661	(7,909)
Change in the fair value of acquisition-related contingent consideration	7	(139)
Loss on disposal of equipment	120	442
Changes in assets and liabilities:		
Accounts receivable	(902)	(7,243)
Inventories	6,301	3,278
Prepaid expenses and other assets	1,621	(141)
Accounts payable	(1,850)	2,104
Accrued payroll and other accrued liabilities	694	(6,770)
Customer advances	(10,307)	3,288
Total adjustments	3,797	(5,297)
Net cash and cash equivalents provided by (used in) operating activities	4,945	(1,716)
Investing activities		
Purchase of investments	(23,306)	(27,353)
Proceeds from sales and maturities of investments	21,642	29,567
Purchase of leasehold improvements and equipment	(4,107)	(3,244)
Net cash and cash equivalents used in investing activities	(5,771)	(1,030)
Financing activities		
Proceeds from issuance of common stock	2,265	3,208
Common stock repurchases	(111)	(558)
Taxes paid related to net share settlement	(404)	(831)
Payment of acquisition-related contingent consideration	(230)	—
Net cash and cash equivalents provided by financing activities	1,520	1,819
Effect of exchange rate changes on cash	(24)	(130)
Net increase (decrease) in cash, cash equivalents and restricted cash	670	(1,057)
Cash, cash equivalents and restricted cash at beginning of period	19,884	20,941
Cash, cash equivalents and restricted cash at end of period	$ 20,554	$ 19,884
Cash paid (received) for:		
Income taxes	$ 1,016	$ 991
Income tax refund	$ (157)	$ —

See accompanying notes.

INTEVAC, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Summary of Significant Accounting Policies

Principles of Consolidation and Basis of Presentation

The consolidated financial statements include the accounts of Intevac, Inc. and its subsidiaries (Intevac or the Company) after elimination of inter-company balances and transactions.

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Actual results could differ materially from those estimates.

Fiscal Year End Date

Intevac operates under a 52-53 week fiscal year ending on the Saturday nearest to December 31 of each year in order to improve the alignment of financial and business processes and to streamline financial reporting. Each fiscal quarter consists of 13 weeks, with an occasional fourth quarter extending to 14 weeks, if necessary, for the fiscal year to end on the Saturday nearest to December 31. The Company's fiscal 2019 and fiscal 2018 years ended on December 28, 2019 and December 29, 2018, respectively.

Cash, Cash Equivalents and Investments

Intevac considers all highly liquid investments with original maturities of three months or less when purchased to be cash equivalents. Available-for-sale securities, comprised of certificates of deposit, commercial paper, obligations of the U.S. government and its agencies, corporate debt securities, asset backed securities and municipal bonds, are carried at fair value, with unrealized gains and losses recorded within other comprehensive income (loss) as a separate component of stockholders' equity. Realized gains and losses and declines in value judged to be other than temporary, if any, on available-for-sale securities are included in earnings. Purchases and sales of investment securities are recognized on a trade date basis. The cost of investment securities sold is determined by the specific identification method.

Restricted Cash

Restricted cash of $600,000 as of December 28, 2019 secures a standby letter of credit obligation associated with a lease obligation and the restriction on the cash will be removed when the letter of credit expires. In addition, Intevac pledged $187,000 as collateral for various guarantees with its bank.

Derivative Instruments and Hedging Arrangements

Foreign Exchange Exposure Management—Intevac enters into forward foreign currency contracts that economically hedge the gains and losses generated by the re-measurement of certain recorded assets and liabilities in a non-functional currency and to offset certain operational exposures from the impact of changes in foreign currency exchange rates. Such exposures result from the portion of the Company's operations, assets and liabilities that are denominated in currencies other than the U.S. dollar, primarily the Singapore dollar. These foreign currency exchange contracts are entered into to support transactions made in the normal course of business, and accordingly, are not speculative in nature. The contracts are for periods consistent with the terms of the underlying transactions, generally one year or less. Changes in the fair value of these undesignated hedges are recognized in other income (expense), net immediately as an offset to the changes in the fair value of the asset or liability being hedged.

Fair Value Measurement—Definition and Hierarchy

Intevac reports certain financial assets and liabilities at fair value. Intevac defines fair value as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Fair value measurements are classified and disclosed in one of the following three categories:

Level 1—Valuations based on quoted prices in active markets for identical assets or liabilities.

Level 2—Valuations based on other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3—Valuations based on inputs that are generally unobservable and typically reflect management's estimates of assumptions that market participants would use in pricing the asset or liability.

Trade Accounts Receivables and Doubtful Accounts

Intevac evaluates the collectibility of trade accounts receivable on an ongoing basis and provides reserves against potential losses when appropriate. Management analyzes historical bad debts, customer concentrations, customer creditworthiness, changes in customer payment tendencies and current economic trends when evaluating the adequacy of the allowance for doubtful accounts. Customer accounts are written off against the allowance when the amount is deemed uncollectible.

Inventories

Inventories are generally stated at the lower of cost or net realizable value, with cost determined on an average cost basis.

Property, Plant and Equipment

Equipment and leasehold improvements are stated at cost. Depreciation is computed using the straight-line method over the estimated useful lives of the assets as follows: computers and software, 3 years; machinery and equipment, 5 years; furniture, 7 years; vehicles, 4 years; and leasehold improvements, remaining lease term.

Contingent Consideration and Purchased Intangible Assets

Contingent consideration related to a business combination is recorded at the acquisition date at the estimated fair value of the contingent payments. The acquisition date fair value is measured based on the consideration expected to be transferred (probability-weighted), discounted back to present value. The discount rate used is determined at the time of the acquisition in accordance with accepted valuation methods. The fair value of the acquisition-related contingent consideration is remeasured at the estimated fair value at each reporting period with the change in fair value recognized as income or expense in the consolidated statements of income.

Purchased intangible assets other than goodwill are amortized over their useful lives unless these lives are determined to be indefinite. Purchased intangible assets are carried at cost, less accumulated amortization. Amortization is computed over the estimated useful lives of the respective assets, generally one to thirteen years using the straight line method. In 2012, as a result of its impairment analysis, Intevac wrote off all of the goodwill in both its TFE and Photonics reporting units.

Impairment of Long-Lived Assets

Long-lived assets and certain identifiable finite-lived intangible assets to be held and used are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Determination of recoverability of long-lived assets is based on an estimate of undiscounted future cash flows resulting from the use of the asset and its eventual disposition. Measurement of an impairment loss for long-lived assets and certain identifiable intangible assets that management expects to hold and use is based on the fair value of the asset. When an impairment loss is recognized, the carrying amount of the asset is reduced to its estimated fair value. No impairment charges were recognized in fiscal 2019 and 2018.

Income Taxes

Deferred tax assets and liabilities are recognized using enacted tax rates for the effect of temporary differences between book and tax bases of recorded assets and liabilities. Deferred tax assets are reduced by a valuation allowance if it is more likely than not that a portion of the deferred tax asset will not be realized.

In determining whether to establish or maintain a valuation allowance against a deferred tax asset, the Company reviews available evidence to determine whether it is more likely than not that all or a portion of the Company's net deferred tax assets will be realized in future periods. Consideration is given to various positive and negative factors that could affect the realization of the net deferred tax assets. In making such a determination, the Company considers, among other things, future reversals of existing taxable temporary differences, projected future taxable income, tax-planning strategies, historical financial performance, the length of statutory carry forward periods, experience with operating loss and tax credit carry forwards not expiring unused. If the Company determines that it would be able to realize its deferred tax assets in the future in excess of their net recorded amount, the Company would make an adjustment to the deferred tax asset valuation allowance, which would reduce the provision for income taxes.

On a quarterly basis, Intevac provides for income taxes based upon an annual effective income tax rate. The effective tax rate is highly dependent upon the level of Intevac's projected earnings, the geographic composition of worldwide earnings, tax regulations governing each region, net operating loss carryforwards, availability of tax credits and the effectiveness of Intevac's tax planning strategies. Intevac carefully monitors the changes in many factors and adjust its effective income tax rate on a timely basis. If actual results differ from the estimates, this could have a material effect on Intevac's business, financial condition and results of operations.

The calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of complex tax laws. Resolution of these uncertainties in a manner inconsistent with Intevac's expectations could have a material effect on Intevac's business, financial condition and results of operations.

Intevac recognizes accrued interest and penalties related to unrecognized tax benefits in the provision for income taxes.

Sales and Value Added Taxes

Taxes collected from customers and remitted to governmental authorities are presented on a net basis in the accompanying consolidated statements of income.

Revenue Recognition

On December 31, 2017, we adopted the new accounting standard ASC 606, Revenue from Contracts with Customers and all the related amendments ("new revenue standard") to all contracts using the modified retrospective method. We recognized the cumulative effect of initially applying the new revenue standard as an adjustment to the opening balance of the accumulated deficit.

In our TFE segment, a majority of our equipment sales revenue continues to be recognized when products are shipped from our manufacturing facilities. Revenue recognition for our equipment sales arrangements, which includes systems, technology upgrades, service and spare parts, remains materially consistent with our historical practice.

In our TFE segment, we recognize revenue for equipment sales at a point in time following the transfer of control of such products to the customer, which typically occurs upon shipment or delivery depending on the terms of the underlying contracts. Our contracts with customers may include multiple performance obligations. For such arrangements, under the new revenue standard we allocate revenue to each performance obligation based on its relative standalone selling price. We generally determine standalone selling prices based on the prices charged to customers or by using expected cost plus margin. Under the new revenue standard, the expected costs associated with our base warranties continue to be recognized as expense when the equipment is sold.

In our Photonics segment, we recognize revenue for CPFF and FFP government contracts over time under the cost-to-cost method for the majority of our government contracts, which is consistent with our historical revenue recognition model.

Revenue on the majority of our government contracts will continue to be recognized over time because of the continuous transfer of control to the customer. For U.S. government contracts, this continuous transfer of control to the customer is supported by clauses in the contract that allow the customer to unilaterally terminate the contract for convenience, pay us for costs incurred plus a reasonable profit and take control of any work in process. Similarly, for non-U.S. government contracts, the customer typically controls the work in process as evidenced either by contractual termination clauses or by our rights to payment for work performed to date to deliver products or services that do not have an alternative use to the Company. Under the new standard, the cost-to-cost measure of progress continues to best depict the transfer of control of assets to the customer, which occurs as we incur costs.

The majority of our contracts in our Photonics segment have a single performance obligation as the promise to transfer the individual goods or services is not separately identifiable from other promises in the contracts and, therefore, not distinct. Some of our contracts have multiple performance obligations, most commonly due to the contract covering multiple phases of the product lifecycle (development and production). For contracts with multiple performance obligations, we allocate the contract's transaction price to each performance obligation using our best estimate of the standalone selling price of each distinct good or service in the contract. The primary method used to estimate standalone selling price is the expected cost plus a margin approach, under which we forecast our expected costs of satisfying a performance obligation and then add an appropriate margin for that distinct good or service.

In our Photonics segment, we recognize revenue for homogenous manufactured military products sold to the U.S. government and its contractors over time under the units-of-delivery method because of the continuous transfer of control to the customer. Intevac believes that the units-of-delivery method is an appropriate measure for measuring progress for the manufactured units as an equal amount of value is individually transferred to the customer upon delivery. The Company previously recognized revenue for substantially all manufactured military products sold to the U.S. government and its contractors when the customers took delivery of the products, which was generally upon shipment.

The nature of our contracts in our Photonics segment gives rise to several types of variable consideration including tiered pricing. Allocation of contract revenues among Photonics military products, and the timing of the recognition of those revenues, is impacted by agreements with tiered pricing or variable rate structures. We include variable consideration in the estimated transaction price when there is a basis to reasonably estimate the amount of the consideration. These estimates are based on historical experience, anticipated performance and our best judgment at the time. Because of our certainty in estimating these amounts, they are included in the transaction price of our contracts and the associated remaining performance obligations.

Accounting for CPFF and FFP contracts and programs involves the use of various techniques to estimate total contract revenue and costs. For these contracts, we estimate the profit on a contract as the difference between the total estimated revenue and expected costs to complete a contract and recognize that profit over the life of the contract. Contract estimates are based on various assumptions to project the outcome of future events. These assumptions include the complexity of the work to be performed; the cost and availability of materials; the performance of subcontractors; and the availability and timing of funding from the customer.

As a significant change in one or more of these estimates could affect the profitability of our contracts, we review and update our contract-related estimates regularly. We recognize adjustments in estimated profit on contracts under the cumulative catch-up method. Under this method, the impact of the adjustment on profit recorded to date on a contract is recognized in the period the adjustment is identified. Revenue and profit in future periods of contract performance are recognized using the adjusted estimate. If at any time the estimate of contract profitability indicates an anticipated loss on the contract, we recognize the total loss in the quarter it is identified.

Adoption of New Accounting Standards

We adopted ASU No. 2016-02, Leases (Topic 842), as of December 30, 2018, using the modified retrospective approach. The modified retrospective approach provides a method for recording existing leases at the beginning of the period of adoption. In addition, we elected the package of practical expedients permitted under the transition guidance within the new standard, which among other things, allowed us to carry forward the historical lease classification, and we elected the hindsight practical expedient to determine the lease term for existing leases. We determined that most renewal options would not be reasonably certain in determining the expected lease term. The comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods.

Adoption of the new standard resulted in the recording of net lease assets of $11.6 million and lease liabilities of $13.7 million, as of December 30, 2018. The standard did not have an impact on our consolidated results of operations or cash flows.

The effect of the changes made to our consolidated December 30, 2018 balance sheet for the adoption of the new lease standard was as follows (in thousands):

	Balance at December 29, 2018	Adjustments Due to ASC 842		Balance at December 30, 2018
Prepaid expenses and other current assets	$ 2,528	$ (221)	[1]	$ 2,307
Total current assets	$ 95,633	$ (221)	[1]	$ 95,412
Operating lease right-of-use assets	$ —	$11,635	[1,2,3]	$ 11,635
Total assets	$122,070	$11,414	[1,2,3]	$133,484
Current operating lease liabilities	$ —	$ 2,581	[5]	$ 2,581
Accounts payable	$ 6,053	$ (4)	[4]	$ 6,049
Other accrued liabilities	$ 4,952	$ (13)	[3]	$ 4,939
Total current liabilities	$ 30,008	$ 2,564	[3,4,5]	$ 32,572
Noncurrent operating lease liabilities	$ —	$11,120	[5]	$ 11,120
Other long-term liabilities	$ 2,438	$ (2,270)	[3]	$ 168
Total non-current liabilities	$ 2,438	$ 8,850	[3,4,5]	$ 11,288
Total liabilities and stockholders' equity	$122,070	$11,414	[4,5]	$133,484

[1] Represents prepaid rent reclassified to operating lease right-of-use assets.

[2] Represents capitalization of operating lease right-of-use assets and reclassification of straight-line rent accrual, and tenant incentives.

[3] Represents reclassification of straight-line rent accrual to operating lease right-of-use assets.

[4] Represents accrued rent reclassified to operating lease right-of-use assets.

[5] Represents recognition of operating lease liabilities.

Upon adoption of the new revenue standard, we recorded a cumulative effect adjustment to the beginning balance of our consolidated December 31, 2017 balance sheet for the impact of the allocation and the timing of the recognition of revenues for an open Photonics military product agreement with a tiered pricing structure. This change will also result in increased revenue in subsequent periods from this agreement. The cumulative effect of the changes made to our consolidated December 31, 2017 balance sheet were as follows (in thousands):

	Balance at December 30, 2017	Adjustments Due to ASC 606	Balance at December 31, 2017
Other accrued liabilities	$ 7,688	$ 1,634	$ 9,322
Accumulated deficit	$(66,881)	$(1,634)	$(68,515)

Advertising Costs

Advertising costs are expensed as incurred. Advertising costs were not material for all periods presented.

Foreign Currency Translation

The functional currency of Intevac's foreign subsidiaries in Singapore and Hong Kong and the Taiwan branch is the U.S. dollar. The functional currency of Intevac's foreign subsidiaries in China, Malaysia and Korea is the local currency of the country in which the respective subsidiary operates. Assets and liabilities recorded in foreign currencies are translated at year-end exchange rates; revenues and expenses are translated at average exchange rates during the year. The effect of foreign currency translation adjustments are included in stockholders' equity as a component of accumulated other comprehensive income in the accompanying consolidated balance sheets. The effects of foreign currency transactions are included in other income in the determination of net income (loss). Gains (losses) from foreign currency transactions were ($85,000) and ($80,000) in 2019 and 2018, respectively.

Comprehensive Income

The changes in accumulated other comprehensive income by component, were as follows for the years ended December 28, 2019 and December 29, 2018:

	Foreign currency	Unrealized holding gains (losses) on available-for-sale investments	Total
		(in thousands)	
Balance at December 30, 2017	$ 535	$ (45)	$ 490
Other comprehensive income (loss) before reclassification	(130)	18	(112)
Amounts reclassified from other comprehensive income (loss)	—	—	—
Net current-period other comprehensive income (loss)	(130)	18	(112)
Balance at December 29, 2018	$ 405	$ (27)	$ 378
Other comprehensive income (loss) before reclassification	(24)	70	46
Amounts reclassified from other comprehensive income (loss)	—	—	—
Net current-period other comprehensive income (loss)	(24)	70	46
Balance at December 28, 2019	$ 381	$ 43	$ 424

Employee Stock Plans

Intevac has equity-based compensation plans that provide for the grant to employees of equity-based awards, including incentive or non-statutory stock options, restricted stock, stock appreciation rights, restricted stock units ("RSUs"), performance units and performance bonus awards. In addition, these plans provide for the grant of non-statutory stock options and RSUs to non-employee directors and consultants. Intevac also has an employee stock purchase plan, which provides Intevac's employees with the opportunity to purchase Intevac common stock at a discount through payroll deductions. See Note 3 for a complete description of these plans and their accounting treatment.

Recent Accounting Pronouncements Not Yet Adopted

In January 2017, the Financial Accounting Standards Board ("FASB") issued Accounting Standard Update ("ASU") 2017-04, *Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*. ASU 2017-04 eliminates Step 2 from the goodwill impairment test. Under Step 2, an entity had to perform procedures to determine the fair value at the impairment testing date of its assets and liabilities (including unrecognized assets and liabilities) following the procedure that would be required in determining the fair value of assets acquired and liabilities assumed in a business combination. Instead, under the amendments in ASU 2017-04, an entity should perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. Additionally, an entity should consider income tax effects from any tax deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. An entity still has the option to perform the qualitative assessment for a reporting unit to determine if the quantitative impairment test is necessary. This update becomes effective and will be adopted by Intevac in the first quarter of fiscal 2020. Intevac does not expect the adoption of this update to have a material impact on its consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments—Credit Losses (Topic 326).* This ASU amends the impairment model to utilize an expected loss methodology in place of the currently used incurred loss methodology, which will result in the more-timely recognition of losses. This update becomes effective and will be adopted by Intevac in the first quarter of fiscal 2023. We are currently assessing how the adoption of this standard will impact our consolidated financial statements.

2. Revenue

The following tables represent a disaggregation of revenue from contracts with customers for fiscal 2019 and 2018 along with the reportable segment for each category.

Major Products and Service Lines

TFE	2019				2018			
	(in thousands)							
	HDD	DCP	PV	Total	HDD	DCP	PV	Total
Systems, upgrades and spare parts	$52,759	$—	$15,653	$68,412	$55,793	$ 1	$5,253	$61,047
Field service	5,210	2	54	5,266	8,255	—	46	8,301
Total TFE net revenues	$57,969	$ 2	$15,707	$73,678	$64,048	$ 1	$5,299	$69,348

Photonics	2019	2018
	(in thousands)	
Products:		
Military products	$12,480	$13,828
Commercial products	640	335
Repair and other services	2,430	1,809
Total Photonics product net revenues	15,550	15,972
Technology development:		
FFP	12,521	2,463
CPFF	7,134	7,258
Time and materials	2	73
Total technology development net revenues	19,657	9,794
Total Photonics net revenues	$35,207	$25,766

Primary Geography Markets

	2019			2018		
	(in thousands)					
	TFE	Photonics	Total	TFE	Photonics	Total
United States	$ 1,306	$34,664	$ 35,970	$ 4,050	$23,862	$27,912
Asia	72,372	—	72,372	65,298	31	65,329
Europe	—	543	543	—	1,648	1,648
Rest of World	—	—	—	—	225	225
Total net revenues	$73,678	$35,207	$108,885	$69,348	$25,766	$95,114

Timing of Revenue Recognition

	2019			2018		
	(in thousands)					
	TFE	Photonics	Total	TFE	Photonics	Total
Products transferred at a point in time	$73,678	$ 2,430	$ 76,108	$69,348	$ 1,809	$71,157
Products and services transferred over time	—	32,777	32,777	—	23,957	23,957
Total net revenues	$73,678	$35,207	$108,885	$69,348	$25,766	$95,114

The following table reflects the changes in our contract assets, which we classify as accounts receivable, unbilled or retainage and our contract liabilities which we classify as deferred revenue and customer advances for fiscal 2019:

	December 28, 2019	December 29, 2018	Change
	(In thousands)		
TFE:			
Contract assets:			
Accounts receivable, unbilled	$ 760	$ 514	$ 246
Contract liabilities:			
Deferred revenue	$ 320	$ 633	$ (313)
Customer advances	4,007	14,314	(10,307)
	$4,327	$14,947	$(10,620)
Photonics:			
Contract assets:			
Accounts receivable, unbilled	$3,210	$ 1,493	$ 1,717
Retainage	99	157	(58)
	$3,309	$ 1,650	$ 1,659
Contract liabilities:			
Deferred revenue	$ —	$ 1,101	$ (1,101)

Accounts receivable, unbilled in our TFE segment represents a contract asset for revenue that has been recognized in advance of billing the customer. For our system and certain upgrade sales, our TFE customers generally pay in three installments, with a portion of the system price billed upon receipt of an order, a portion of the price billed upon shipment, and the balance of the price due upon completion of installation and acceptance of the system at the customer's factory. Accounts receivable, unbilled in our TFE segment generally represents the balance of the system price that is due upon completion of installation and acceptance less the amount that has been deferred as revenue for the performance of the installation tasks. During fiscal 2019, contract assets in our TFE segment increased by $246,000 primarily due to the accrual of revenue under a vendor managed inventory arrangement.

Customer advances in our TFE segment generally represent amounts billed to the customer prior to transferring goods which represents a contract liability. The Company has elected to use the practical expedient to disregard the effect of the time value of money in a significant financing component when its payment terms are less than one year. These contract advances are liquidated when revenue is recognized. Deferred revenue in our TFE segment generally represents amounts billed to a customer for completed systems at the customer site that are undergoing installation and acceptance testing where transfer of control has not yet occurred as Intevac does not yet have a demonstrated history of meeting the acceptance criteria upon the customer's receipt of product and represents a contract liability. During fiscal 2019, we recognized revenue in our TFE segment of $14.3 million and $527,000 that was included in customer advances and deferred revenue, respectively, at the beginning of the period. Customer advances included in accounts receivable were $201,000 at December 28, 2019.

Accounts receivable, unbilled in our Photonics segment represents a contract asset for revenue that has been recognized in advance of billing the customer, which is common for contracts in the defense industry. In our Photonics segment, amounts are billed as work progresses in accordance with agreed-upon contractual terms, either at periodic intervals (e.g., monthly) or upon achievement of contractual milestones. Generally, billing occurs subsequent to revenue recognition, resulting in contract assets. Our contracts with the U.S. government may also contain retainage provisions. Retainage represents a contract asset for the portion of the contract price earned by us for work performed, but held for payment by the U.S. government as a form of security until satisfactory completion of the contract. The retainage is billable upon completion of the contract performance and approval of final indirect expense rates by the government. During fiscal 2019, contract assets in our Photonics segment increased by $1.7 million primarily due to the revenue recognized on FFP contracts in advance of billing and the accrual of revenue incurred costs under CPFF contracts, offset in part by the completion of certain CPFF contracts and the final settlement of retainage amounts under certain CPFF contracts.

Customer advances in our Photonics segment generally represent deposits from customers upon contract execution and upon achievement of contractual milestones which represents a contract liability. These deposits are liquidated when revenue is recognized. Deferred revenue in our Photonics segment included amounts deferred for the impact of the allocation and the timing of the recognition of revenues for a military product agreement with a tiered pricing structure. During fiscal 2019, we recognized revenue in our Photonics segment of $1.1 million related to the above mentioned military product agreement that was included in deferred revenue at the beginning of the period.

On December 28, 2019 we had $92.4 million of remaining performance obligations, which we also refer to as total backlog. Backlog at December 28, 2019 consisted of $21.4 million of TFE backlog and $71.0 million of Photonics backlog. We expect to recognize approximately 62% of our remaining performance obligations as revenue in 2020, 20% in 2021, 13% in 2022 and 5% in 2023.

3. Equity-Based Compensation

Intevac accounts for share-based awards in accordance with the provisions of the accounting guidance which requires the measurement and recognition of compensation expense for all share-based payment awards made to employees, consultants and directors based upon the grant-date fair value of those awards. The estimated fair value of Intevac’s equity-based awards is amortized over the awards’ service periods using the graded vesting attribution method.

Descriptions of Plans

Equity Incentive Plans

At December 28, 2019, Intevac had equity-based awards outstanding under the 2012 Equity Incentive Plan and the 2004 Equity Incentive Plan (the “Plans”) and the 2003 Employee Stock Purchase Plan (the “ESPP”). Intevac’s stockholders approved all of these plans.

The Plans are a broad-based, long-term retention program intended to attract and retain qualified management and employees, and align stockholder and employee interests. The Plans permit the grant of incentive or non-statutory stock options, restricted stock, stock appreciation rights, RSUs and performance shares. Option price, vesting period, and other terms are determined by the administrator of the Plans, but the option price shall generally not be less than 100% of the fair market value per share on the date of grant. As of December 28, 2019, 6.5 million shares of common stock were authorized for future issuance under the Plans. The 2012 Plan expires no later than May 8, 2022.

2003 Employee Stock Purchase Plan

In 2003, Intevac’s stockholders approved adoption of the ESPP, which serves as the successor to the Employee Stock Purchase Plan originally adopted in 1995. Upon adoption of the ESPP, all shares available for issuance under the prior plan were transferred to the ESPP. The ESPP provides that eligible employees may purchase Intevac common stock through payroll deductions at a price equal to 85% of the lower of the fair market value at the beginning of the applicable offering period or at the end of each applicable purchase interval. Offering periods are generally two years in length, and consist of a series of six-month purchase intervals. Eligible employees may join the ESPP at the beginning of any six-month purchase interval. Under the terms of the ESPP, employees can choose to have up to 15% of their base earnings withheld to purchase Intevac common stock. As of December 28, 2019, 555,000 shares remained available for issuance under the ESPP.

The effect of recording equity-based compensation for fiscal 2019 and 2018 was as follows (in thousands):

	2019	2018
Equity-based compensation by type of award:		
Stock options	$ 819	$ 775
RSUs	1,657	1,251
Employee stock purchase plan	749	1,281
Total equity-based compensation	$3,225	$3,307

Equity-based compensation expense is based on awards which vest. Intevac accounts for forfeitures as they occur, rather than estimating expected forfeitures.

Stock Options

The exercise price of each stock option equals the market price of Intevac's stock on the date of grant. Most options are scheduled to vest over three and/or four years and expire no later than ten years after the grant date. The fair value of each option grant is estimated on the date of grant using the Black-Scholes option pricing model. This model was developed for use in estimating the value of publicly traded options that have no vesting restrictions and are fully transferable. Intevac's employee stock options have characteristics significantly different from those of publicly traded options. The weighted-average assumptions used in the model are outlined in the following table:

	2019	2018
Stock Options:		
Weighted-average fair value of grants per share	$ 2.06	$ 1.97
Expected volatility	43.23%	43.83%
Risk free interest rate	1.86%	2.58%
Expected term of options (in years)	4.6	4.4
Dividend yield	None	None

The computation of the expected volatility assumption used in the Black-Scholes calculations for new grants is based on historical volatility of Intevac's stock price. The risk-free interest rate is based on the yield available on U.S. Treasury Strips with an equivalent remaining term. The expected life of employee stock options represents the weighted-average period that the stock options are expected to remain outstanding and was determined based on historical experience of similar awards, giving consideration to the contractual terms of the stock-based awards and vesting schedules. The dividend yield assumption is based on Intevac's history of not paying dividends and the assumption of not paying dividends in the future.

Performance stock options ("PSOs") vest upon the achievement of certain market conditions (our stock performance) during a set performance period (typically 4 years) subject to the grantee's continued service with Intevac through the date the applicable market condition is achieved. The fair value is based on the values calculated under the Monte Carlo simulation model on the grant date. Compensation cost is not adjusted in future periods for subsequent changes in the expected outcome of market related conditions. The compensation expense is recognized over the derived service period. We granted 37,500 of such stock options to the chief executive officer in 2019. These PSOs have a derived service period of 1.1 years.

Intevac estimated the weighted-average fair value of PSO's using the following weighted-average assumptions:

	2019
Weighted-average fair value of grants per share	$ 1.75
Expected volatility	43.43%
Risk free interest rate	1.96%
Expected term (in years)	4.60
Dividend yield	None

A summary of the stock option activity is as follows:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Options outstanding at December 29, 2018	2,070,749	$6.76	3.78	$ 339,821
Options granted	372,500	$5.46		
Options cancelled and forfeited	(171,268)	$7.82		
Options exercised	(175,371)	$4.55		
Options outstanding at December 28, 2019	2,096,610	$6.63	3.75	$2,048,964
Options exercisable at December 28, 2019	1,294,681	$6.73	2.65	$1,097,036

The total intrinsic value of options exercised during fiscal years 2019 and 2018 was $249,000 and $431,000, respectively. At December 28, 2019, Intevac had $895,000 of total unrecognized compensation expense related to stock option plans that will be recognized over the weighted-average period of 1.31 years.

RSUs

A summary of the RSU activity is as follows:

	Shares	Weighted Average Grant Date Fair Value	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Non-vested RSUs at December 29, 2018	462,409	$6.92	1.47	$2,362,910
Granted	319,743	$5.59		
Vested	(198,065)	$7.08		
Cancelled	(30,732)	$5.96		
Non-vested RSUs at December 28, 2019	553,355	$6.15	1.30	$3,713,012

Time-based RSUs are converted into shares of Intevac common stock upon vesting on a one-for-one basis. Time-based RSUs typically are scheduled to vest over three and/or four years. Vesting of time-based RSUs is subject to the grantee's continued service with Intevac. The compensation expense related to these awards is determined using the fair market value of Intevac common stock on the date of the grant, and the compensation expense is recognized over the vesting period. At December 28, 2019, Intevac had $1.5 million of total unrecognized compensation expense related to RSUs that will be recognized over the weighted-average period of 1.30 years.

ESPP

The fair value of the employee stock purchase right is estimated on the date of grant using the Black-Scholes option pricing model with the following weighted-average assumptions:

	2019	2018
Stock Purchase Rights:		
Weighted-average fair value of grants per share	$ 1.73	$ 2.24
Expected volatility	45.81%	47.64%
Risk free interest rate	2.28%	2.01%
Expected term of purchase rights (in years)	0.91	1.33
Dividend yield	None	None

The expected life of purchase rights is the period of time remaining in the current offering period.

The ESPP activity during fiscal 2019 and 2018 is as follows:

	2019	2018
	(in thousands, except per share amounts)	
Shares purchased	370	411
Weighted-average purchase price per share	$3.96	$3.98
Aggregate intrinsic value of purchase rights exercised	$ 513	$ 750

As of December 28, 2019, Intevac had $156,000 of total unrecognized compensation expense related to purchase rights that will be recognized over the weighted-average period of 0.5 years.

4. Earnings Per Share

Intevac calculates basic earnings per share ("EPS") using net income and the weighted-average number of shares outstanding during the reporting period. Diluted EPS includes the effect from potential issuance of common stock pursuant to the exercise of employee stock options and vesting of RSUs.

The following table sets forth the computation of basic and diluted net income per share:

	2019	2018
	(in thousands, except per share amounts)	
Net income	$ 1,148	$ 3,581
Weighted-average shares—basic	23,063	22,519
Effect of dilutive potential common shares	277	385
Weighted-average shares—diluted	23,340	22,904
Net income per share—basic	$ 0.05	$ 0.16
Net income per share—diluted	$ 0.05	$ 0.16

The potentially dilutive securities were excluded (as common stock equivalents) from the computation of diluted net income per share for the periods presented as their effect would have been antidilutive:

	2019	2018
	(in thousands, except per share amounts)	
Stock options to purchase common stock	1,235	1,612
RSUs	5	124
Employee stock purchase plan	3	254

5. Concentrations

Credit Risk and Significant Customers

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist of cash equivalents, short- and long-term investments, restricted cash, and accounts receivable. Intevac generally invests its excess cash in money market funds, certificates of deposit, commercial paper, obligations of the U.S. government and its agencies, corporate debt securities, asset backed securities and municipal bonds. The Company has adopted an investment policy and established guidelines relating to credit quality, diversification and maturities of its investments in order to preserve principal and maintain liquidity. All investment securities in Intevac's portfolio have an investment grade credit rating.

Intevac's accounts receivable tend to be concentrated in a limited number of customers. The following customers accounted for at least 10 percent of Intevac's accounts receivable at December 28, 2019 and December 29, 2018.

	2019	2018
Seagate Technology	60%	45%
U.S. Government	25%	*
HGST	*	25%

* Less than 10%

Intevac's largest customers tend to change from period to period. Historically, a significant portion of Intevac's revenues in any particular period have been attributable to sales to a limited number of customers. Intevac performs credit evaluations of its customers' financial condition and generally requires deposits on system orders but does not generally require collateral or other security to support customer receivables.

The following customers accounted for at least 10 percent of Intevac's consolidated net revenues in fiscal 2019 and/or 2018.

	2019	2018
Seagate Technology	49%	52%
U.S. Government	20%	*
Jolywood (Hongkong) Industrial Holdings Co., Limited	14%	*
HGST	*	13%

* Less than 10%

Products

Disk manufacturing products contributed a significant portion of Intevac's revenues in fiscal 2019 and 2018. Intevac expects that the ability to maintain or expand its current levels of revenues in the future will depend upon continuing market demand for its products; its success in enhancing its existing systems and developing and manufacturing competitive disk manufacturing equipment, such as the 200 Lean; its success in utilizing Intevac's expertise in complex manufacturing equipment to develop and sell new manufacturing equipment products for PV, DCP and advanced semiconductor packaging and Intevac's success in developing military products based on its low-light technology.

6. Balance Sheet Details

Balance sheet details were as follows as of December 28, 2019 and December 29, 2018:

Trade and Other Accounts Receivable, Net

	December 28, 2019	December 29, 2018
	(in thousands)	
Trade receivables and other	$24,472	$25,397
Unbilled costs and accrued profits	4,069	2,164
Income tax receivable	78	156
Less: allowance for doubtful accounts	—	—
	$28,619	$27,717

Inventories

Inventories are stated at the lower of average cost or net realizable value and consist of the following:

	December 28, 2019	December 29, 2018
	(in thousands)	
Raw materials	$15,286	$16,354
Work-in-progress	4,748	9,134
Finished goods	4,873	5,109
	$24,907	$30,597

Finished goods inventory at December 28, 2019 included one VERTEX SPECTRA system for DCP under evaluation at a customer's factory and one MATRIX PVD system for advanced semiconductor packaging under evaluation at a customer's factory. Finished goods inventory at December 29, 2018 included three completed ENERG*i* implant systems at Intevac's factory pending customer shipment.

Property, Plant and Equipment

	December 28, 2019	December 29, 2018
	(in thousands)	
Leasehold improvements	$15,037	$14,923
Machinery and equipment	46,674	45,032
	61,711	59,955
Less accumulated depreciation and amortization	50,113	48,757
Total property, plant and equipment, net	$11,598	$11,198

Deferred Income Taxes and Other Long-Term Assets

	December 28, 2019	December 29, 2018
	(in thousands)	
Deferred income taxes	$6,252	$7,913
Income tax receivable	78	157
Contested tax deposits	—	723
Other	—	16
	$6,330	$8,809

Accounts Payable

Included in accounts payable is $512,000 and $423,000 of book overdraft at December 28, 2019 and December 29, 2018, respectively.

Other Accrued Liabilities

	December 28, 2019	December 29, 2018
	(in thousands)	
Deferred revenue	$ 320	$1,734
Other taxes payable	1,155	928
Accrued product warranties	846	839
Income taxes payable	403	389
Provision for estimated losses on uncompleted contracts	—	278
Acquisition-related contingent consideration	—	223
Other	869	561
Total other accrued liabilities	$3,593	$4,952

Other Long-Term Liabilities

	December 28, 2019	December 29, 2018
	(in thousands)	
Deferred rent	$—	$2,270
Accrued product warranties	176	158
Accrued income taxes	10	10
Total other long-term liabilities	$186	$2,438

7. Purchased Intangible Assets, Net

Information regarding acquisition-related intangible assets is as follows:

	December 28, 2019			December 29, 2018		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
	(in thousands)					
Customer relationships	$3,119	$3,083	$ 36	$3,119	$3,040	$ 79
Purchased technology	5,148	4,910	238	5,148	4,338	810
Covenants not to compete	40	40	—	40	40	—
Backlog	80	80	—	80	80	—
Total amortizable intangible assets	$8,387	$8,113	$274	$8,387	$7,498	$889

Intangible assets by segment as of December 28, 2019 are as follows: TFE; $238,000 and Photonics; $36,000.

Total amortization expense of purchased intangibles for both fiscal 2019 and 2018 was $615,000.

Estimated future amortization expense related to finite-lived purchased intangible assets as of December 28, 2019, is as follows.

(in thousands)	
2020	$274

8. Contingent Consideration

In connection with the acquisition of SIT, Intevac agreed to pay to the selling shareholders in cash a revenue earnout on Intevac's net revenue from commercial sales of certain products over a specified period up to an aggregate of $9.0 million.

The earnout period terminated on June 30, 2019. There is no remaining contingent consideration obligation associated with the earnout agreement at December 28, 2019.

The following table represents a reconciliation of the change in the fair value measurement of the contingent consideration liability for fiscal 2019 and 2018:

	2019	2018
	(in thousands)	
Beginning balance	$ 223	$ 362
Changes in fair value	7	(139)
Cash payments made	(230)	—
Ending balance	$ —	$ 223

9. Financial Instruments

Cash, Cash Equivalents and Investments

Cash and cash equivalents, short-term investments and long-term investments consist of:

	December 28, 2019			
	Amortized Cost	Unrealized Holding Gains	Unrealized Holding Losses	Fair Value
	(in thousands)			
Cash and cash equivalents:				
Cash	$16,512	$—	$—	$16,512
Money market funds	3,255	—	—	3,255
Total cash and cash equivalents	$19,767	$—	$—	$19,767
Short-term investments:				
Certificates of deposit	$ 3,000	$ 1	$—	$ 3,001
Commercial paper	1,891	2	—	1,893
Corporate bonds and medium-term notes	6,383	25	—	6,408
U.S. treasury and agency securities	5,417	1	—	5,418
Total short-term investments	$16,691	$ 29	$—	$16,720
Long-term investments:				
Certificates of deposit	$ 499	$ 1	$—	$ 500
Corporate bonds and medium-term notes	2,530	12	—	2,542
U.S. treasury and agency securities	2,494	1	—	2,495
Total long-term investments	$ 5,523	$ 14	$—	$ 5,537
Total cash, cash equivalents, and investments	$41,981	$ 43	$—	$42,024

	December 29, 2018			
	Amortized Cost	Unrealized Holding Gains	Unrealized Holding Losses	Fair Value
	(in thousands)			
Cash and cash equivalents:				
Cash	$13,334	$—	$—	$13,334
Money market funds	3,335	—	—	3,335
U.S. treasury and agency securities	2,046	—	—	2,046
Total cash and cash equivalents	$18,715	$—	$—	$18,715
Short-term investments:				
Certificates of deposit	$ 5,299	$ 1	$ 1	$ 5,299
Commercial paper	2,242	—	1	2,241
Corporate bonds and medium-term notes	4,759	—	13	4,746
Municipal bonds	500	—	2	498
U.S. treasury and agency securities	3,297	—	5	3,292
Total short-term investments	$16,097	$ 1	$ 22	$16,076
Long-term investments:				
Certificates of deposit	$ 500	$—	$—	$ 500
Corporate bonds and medium-term notes	2,879	4	4	2,879
U.S. treasury and agency securities	999	—	6	993
Total long-term investments	$ 4,378	$ 4	$ 10	$ 4,372
Total cash, cash equivalents, and investments	$39,190	$ 5	$ 32	$39,163

The contractual maturities of available-for-sale securities at December 28, 2019 are presented in the following table.

	Amortized Cost	Fair Value
	(in thousands)	
Due in one year or less	$19,946	$19,975
Due after one through five years	5,523	5,537
	$25,469	$25,512

All prices for the fixed maturity securities including U.S. treasury and agency securities, certificates of deposit, commercial paper, corporate bonds, asset backed securities and municipal bonds are received from independent pricing services utilized by Intevac's outside investment manager. This investment manager performs a review of the pricing methodologies and inputs utilized by the independent pricing services for each asset type priced by the vendor. In addition, on at least an annual basis, the investment manager conducts due diligence visits and interviews with each pricing vendor to verify the inputs utilized for each asset class. The due diligence visits include a review of the procedures performed by each vendor to ensure that pricing evaluations are representative of the price that would be received to sell a security in an orderly transaction. Any pricing where the input is based solely on a broker price is deemed to be a Level 3 price. Intevac uses the pricing data obtained from its outside investment manager as the primary input to make its assessments and determinations as to the ultimate valuation of the above-mentioned securities and has not made, during the periods presented, any material adjustments to such inputs.

The following table represents the fair value hierarchy of Intevac's available-for-sale securities measured at fair value on a recurring basis as of December 28, 2019.

	Fair Value Measurements at December 28, 2019		
	Total	Level 1	Level 2
	(in thousands)		
Recurring fair value measurements:			
Available-for-sale securities			
Money market funds	$ 3,255	$ 3,255	$ —
U.S. treasury and agency securities	7,913	7,913	—
Certificates of deposit	3,501	—	3,501
Commercial paper	1,893	—	1,893
Corporate bonds and medium-term notes	8,950	—	8,950
Total recurring fair value measurements	$25,512	$11,168	$14,344

Derivatives

The Company uses foreign currency forward contracts to mitigate variability in gains and losses generated from the re-measurement of certain monetary assets and liabilities denominated in foreign currencies and to offset certain operational exposures from the impact of changes in foreign currency exchange rates. These derivatives are carried at fair value with changes recorded in interest income and other, net in the consolidated statements of income. Changes in the fair value of these derivatives are largely offset by re-measurement of the underlying assets and liabilities. Cash flows from such derivatives are classified as operating activities. The derivatives have maturities of approximately 30 days.

The following table summarizes the Company's outstanding derivative instruments on a gross basis as recorded in its consolidated balance sheets as of December 28, 2019 and December 29, 2018:

	Notional Amounts		Derivative Liabilities			
Derivative Instrument	December 28, 2019	December 29, 2018	December 28, 2019		December 29, 2018	
			Balance Sheet Line	Fair Value	Balance Sheet Line	Fair Value
	(In thousands)					
Undesignated Hedges:						
Forward Foreign Currency Contracts	$1,035	1,764	*	$4	*	$8
Total Hedges	$1,035	1,764		$4		$8

* Other accrued liabilities

10. Equity

Stock Repurchase Program

On November 21, 2013, Intevac's Board of Directors approved a stock repurchase program authorizing up to $30.0 million in repurchases. On August 15, 2018, Intevac's Board of Directors approved a $10.0 million increase to the original stock repurchase program authorizing up to $40.0 million. Under this authorization, Intevac purchases shares of its common stock under a systematic stock repurchase program and may also make supplemental stock repurchases from time to time, depending on market conditions, stock price and other factors.

At December 28, 2019, $10.8 million remains available for future stock repurchases under the repurchase program.

The following table summarizes Intevac's stock repurchases for fiscal 2019 and 2018:

	2019	2018
	(in thousands, except per share amounts)	
Shares of common stock repurchased	24	120
Cost of stock repurchased	$ 111	$ 558
Average price paid per share	$4.67	$4.63

Intevac records treasury stock purchases under the cost method using the first-in, first-out (FIFO) method. Upon reissuance of treasury stock, amounts in excess of the acquisition cost are credited to additional paid-in capital. If Intevac reissues treasury stock at an amount below its acquisition cost and additional paid-in capital associated with prior treasury stock transactions is insufficient to cover the difference between the acquisition cost and the reissue price, this difference is recorded against retained earnings.

11. Income Taxes

The provision for (benefit from) income taxes on income (loss) from operations for fiscal 2019 and 2018 consists of the following (in thousands):

	2019	2018
Federal:		
Current	$ —	$ (313)
Deferred	—	—
	—	(313)
State:		
Current	4	5
Deferred	—	—
	4	5
Foreign:		
Current	1,694	1,041
Deferred	1,661	(7,909)
	3,355	(6,868)
Total	$3,359	$(7,176)

Income (loss) before income taxes for fiscal 2019 and 2018 consisted of the following (in thousands):

	2019	2018
U.S	$(4,875)	$(11,634)
Foreign	9,382	8,039
	$ 4,507	$ (3,595)
Effective tax rate	74.5%	199.6%

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts for income tax purposes. Significant components of deferred tax assets are as follows (in thousands):

	December 28, 2019	December 29, 2018
Deferred tax assets:		
Vacation, warranty and other accruals	$ 635	$ 515
Depreciation and amortization	89	656
Intangible amortization	804	902
Inventory valuation	1,288	1,401
Deferred income	—	256
Equity-based compensation	1,593	1,411
Net operating loss, research and other tax credit carryforwards	54,818	53,595
Other	43	545
	59,270	59,281
Valuation allowance for deferred tax assets	(52,099)	(50,804)
Total deferred tax assets	7,171	8,477
Deferred tax liabilities:		
Purchased technology	(45)	(181)
Unbilled revenue	(874)	(383)
Total deferred tax liabilities	(919)	(564)
Net deferred tax assets	$ 6,252	$ 7,913
As reported on the balance sheet:		
Non-current deferred tax assets	$ 6,252	$ 7,913

Intevac accounts for income taxes in accordance with accounting standards for such taxes, which requires that deferred tax assets and liabilities be recognized using enacted tax rates for the effect of temporary differences between the financial reporting and tax bases of recorded assets and liabilities.

Accounting standards also require that deferred tax assets be reduced by a valuation allowance if it is more likely than not that some portion of or all of the deferred tax asset will not be realized. Management assesses the available positive and negative evidence to estimate if sufficient future taxable income will be generated to use the existing deferred tax assets. In fiscal 2014, a valuation allowance of $9.4 million was established to record the portion of the Singapore deferred tax asset that more likely than not will not be realized. The Company concluded that, as of December 29, 2018, it is more likely than not that the Company will generate sufficient taxable income in Singapore to realize its deferred tax assets and reversed the valuation allowance during the fourth quarter of 2018. This reversal resulted in the recognition of a non-cash income tax benefit of $7.9 million for fiscal 2018. The Company has considered all positive and negative evidence regarding the ability to fully realize the deferred tax asset, including past operating results and the forecast of future taxable income. This conclusion, and the resulting reversal of the deferred tax asset valuation allowance, was based upon consideration of a number of factors, including the Company's completion of 7 consecutive quarters of profitability and its forecast of future profitability under multiple scenarios that support the utilization of net operating loss carryforwards. After recognizing the reversal, the Company does not have a remaining valuation allowance against the deferred tax assets in Singapore at December 28, 2019.

In fiscal 2012, a valuation allowance of $23.4 million was established to record the portion of the U.S. federal deferred tax asset that more likely than not will not be realized. For fiscal 2019 a valuation allowance decrease of $689,000 and for fiscal 2018 a valuation allowance increase of $930,000, respectively, were recorded for the U.S. federal deferred tax asset. A valuation allowance is recorded against the entire state deferred tax asset which consists of state income tax temporary differences and deferred research and other tax credits that are not realizable in the foreseeable future. The amount of the deferred tax asset considered realizable, however, could be adjusted if estimates of future taxable income during the carryforward period are reduced or increased, or if objective negative evidence in the form of cumulative losses is no longer present and additional weight may be given to subjective evidence such as our projections for growth.

As of December 28, 2019, our federal, foreign and state net operating loss carryforwards for income tax purposes were approximately $70.5 million, $35.3 million and $70.5 million, respectively. The federal and state net operating loss carryforwards are subject to various limitations under Section 382 of the Internal Revenue Code and applicable state tax laws. If not utilized, the federal net operating loss carryforwards and the state net operating loss carryforwards will begin to expire in 2028. The foreign net operating loss carryforwards do not expire. As of December 28, 2019, our federal and state tax credit carryforwards for income tax purposes were approximately $18.0 million and $16.1 million, respectively. If not utilized, the federal tax credit carryforwards will begin to expire in 2020 and the state tax credits carry forward indefinitely.

The U.S. federal corporate alternative minimum tax ("AMT") has been repealed for tax years beginning after December 31, 2017. Intevac has recorded income tax receivables of $156,000 for unused AMT credit carryforwards. On the consolidated balance sheets, the short-term portion of the income tax receivable is included in trade and other accounts receivable, net, while the long-term portion is included in deferred income taxes and other long-term assets.

We account for Global Intangible Low-Taxed Income ("GILTI") earned by certain foreign subsidiaries in the year the tax is incurred.

The difference between the tax provision at the statutory federal income tax rate and the tax provision for fiscal 2019 and 2018 was as follows (in thousands):

	2019	2018
Income tax (benefit) at the federal statutory rate	$ 947	$ (756)
State income taxes, net of federal benefit	4	5
Change in valuation allowance:		
U.S	(689)	930
Foreign	—	(9,286)
Effect of foreign operations taxed at various rates	(397)	(254)
Research tax credits	(1,710)	(1,883)
Effect of tax rate changes, permanent differences and adjustments of prior deferrals	3,685	4,142
Unrecognized tax benefits	1,519	(74)
Total	$ 3,359	$(7,176)

Intevac has not provided for foreign withholding taxes on approximately $1.5 million of undistributed earnings from non-U.S. operations as of December 28, 2019 because Intevac intends to reinvest such earnings indefinitely outside of the United States. If Intevac were to distribute these earnings, foreign withholding tax would be payable. For all other undistributed foreign earnings, Intevac also intends to reinvest such earnings indefinitely outside of the United States.

The total amount of gross unrecognized tax benefits was $7.7 million as of December 28, 2019, of which $8,000 would affect Intevac's effective tax rate if realized. The aggregate changes in the balance of gross unrecognized tax benefits were as follows for fiscal 2019 and 2018:

	2019	2018
Beginning balance	$6,164	$5,678
Additions based on tax positions related to the current year	1,519	784
Settlements	—	(233)
Lapse of statute of limitations	—	(65)
Ending balance	$7,683	$6,164

The Company does not anticipate any changes in the amount of unrecognized tax benefits in the next twelve months. It is Intevac's policy to include interest and penalties related to unrecognized tax benefits in the provision for income taxes on the consolidated statements of income. During fiscal 2019 and 2018, Intevac recognized a net tax expense (benefit) for interest of $0 and $2,000, respectively. As of December 28, 2019 Intevac had $2,000 of accrued interest related to unrecognized tax benefits, which was classified as a long-term liability in the consolidated balance sheets. Intevac did not accrue any penalties related to these unrecognized tax benefits because Intevac has other tax attributes which would offset any potential taxes due.

Intevac is subject to income taxes in the U.S. federal jurisdiction, and various state and foreign jurisdictions. Tax regulations within each jurisdiction are subject to the interpretation of the related tax laws and regulations and require significant judgment to apply. Intevac has certain tax attributes that are subject to adjustment back to 1999. Intevac is subject to potential income tax return examination by tax authorities for tax years after 2009 in the following material jurisdictions: U.S. (Federal and California) and Singapore. Intevac has certain tax attributes that are subject to adjustment back to 1999.

The Inland Revenue Authority of Singapore ("IRAS") conducted a review of the fiscal 2009 through 2010 tax returns of the Company's wholly-owned subsidiary, Intevac Asia Pte. Ltd. IRAS challenged the Company's tax position with respect to certain deductions. The Company paid all contested taxes and the related interest to have the right to defend its position under Singapore tax law. During 2019, the Company received an unfavorable decision on its appeal to the Singapore Income Tax Board of Review. Although management has decided to pursue an appeal to the Singapore High Court, management determined that the Company could no longer support a more likely than not position. Accordingly, the Company recorded a charge of $732,000 in provision for income taxes and fully reserved the contested tax deposits reported on its balance sheet. Presently, there are no other active income tax examinations in the jurisdictions where Intevac operates.

12. Employee Benefit Plans

Employee Savings and Retirement Plan

In 1991, Intevac established a defined contribution retirement plan with 401(k) plan features. The plan covers all United States employees eighteen years and older. Employees may make contributions by a percentage reduction in their salaries, not to exceed the statutorily prescribed annual limit. Intevac made cash contributions of $334,000 for fiscal 2019 and $345,000 for fiscal 2018. Employees may choose among several investment options for their contributions and their share of Intevac's contributions, and they are able to move funds between investment options at any time. Intevac's common stock is not one of the investment options. Administrative expenses relating to the plan are insignificant.

Employee Bonus Plans

Intevac has various employee bonus plans. A profit-sharing plan provides for the distribution of a percentage of pre-tax profits to substantially all of Intevac's employees not eligible for other performance-based incentive plans, up to a maximum percentage of compensation. Other plans award annual cash bonuses to Intevac's executives and key contributors based on the achievement of profitability and other specific performance criteria. Charges to expense under these plans were $2.8 million, and $1.4 million, respectively, for fiscal 2019 and 2018.

13. Commitments and Contingencies

Leases

Intevac leases certain manufacturing facilities, warehouses, office space, and equipment under non-cancelable operating leases that expire at various times up to March 2024 and has options to renew most leases, with rentals to be negotiated. Certain of Intevac's leases contain provisions for rental adjustments. Operating lease rentals are expensed on a straight-line basis over the life of the lease beginning on the date we take possession of the property. At lease inception, we determine the lease term by assuming the exercise of those renewal options that are reasonably assured. The exercise of lease renewal options is at our sole discretion. The lease term is used to determine whether a lease is financing or operating and is used to calculate straight-line rent expense. Additionally, the depreciable life of leasehold improvements is limited by the expected lease term. Leases with an initial term of 12 months or less are not recorded on the balance sheet; we recognize lease expense for these leases on a straight-line basis over the lease term.

The following table reflects our lease assets and our lease liabilities at December 28, 2019 and December 30, 2018.

	December 28, 2019	December 30, 2018
	(In thousands)	
Assets:		
Operating lease right-of-use assets	$10,279	$11,635
Liabilities:		
Current operating lease liabilities	$ 2,524	$ 2,581
Noncurrent operating lease liabilities	9,532	11,120
	$12,056	$13,701

Lease Costs:

The components of lease costs were as follows (in thousands):

	2019	2018
	(In thousands)	
Operating lease cost	$3,112	$3,024
Short-term lease cost	78	82
Total lease cost	$3,190	$3,106

As of December 28, 2019 the maturity of operating lease liabilities was as follows:

(In thousands)	
2020	$ 3,219
2021	3,343
2022	3,428
2023	3,249
2024	529
Total lease payments	13,768
Less: Interest	(1,712)
Present value of lease liabilities	$12,056

Lease Term and Discount Rate:

	December 28, 2019
Weighted-average remaining lease term (in years)	4.08
Weighted-average discount rate	6.37%

Other information:

Supplemental cash flow information related to leases was as follows (in thousands):

	2019
Operating cash outflows from operating leases	$3,484
Right-of-use assets obtained in exchange for new operating lease liabilities	$ 934

Guarantees

Officer and Director Indemnifications

As permitted or required under Delaware law and to the maximum extent allowable under that law, Intevac has certain obligations to indemnify its current and former officers and directors for certain events or occurrences while the officer or director is, or was, serving at Intevac's request in such capacity. These indemnification obligations are valid as long as the director or officer acted in good faith and in a manner the person reasonably believed to be in, or not opposed to, the best interests of the Company and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. The maximum potential amount of future payments Intevac could be required to make under these indemnification obligations is unlimited; however, Intevac has a director and officer insurance policy that mitigates Intevac's exposure and enables Intevac to recover a portion of any future amounts paid. As a result of Intevac's insurance policy coverage, Intevac believes the estimated fair value of these indemnification obligations is not material.

Other Indemnifications

As is customary in Intevac's industry, many of Intevac's contracts provide remedies to certain third parties such as defense, settlement, or payment of judgments for intellectual property claims related to the use of its products. Such indemnification obligations may not be subject to maximum loss clauses. Historically, payments made related to these indemnifications have been immaterial.

Letters of Credit

As of December 28, 2019, we had letters of credit and bank guarantees outstanding totaling $787,000, including the standby letter of credit outstanding under the Santa Clara, California facility lease and various other guarantees with its bank. These letters of credit and bank guarantees are collateralized by $787,000 of restricted cash.

Warranty

Intevac provides for the estimated cost of warranty when revenue is recognized. Intevac's warranty is per contract terms and for its HDD, PV and DCP manufacturing systems the warranty typically ranges between 12 and 24 months from customer acceptance. For systems sold through a distributor, Intevac offers a 3-month warranty. The remainder of any warranty period is the responsibility of the distributor. During this warranty period any defective non-consumable parts are replaced and installed at no charge to the customer. Intevac uses estimated repair or replacement costs along with its historical warranty experience to determine its warranty obligation. The provision for the estimated future costs of warranty is based upon historical cost and product performance experience. Intevac exercises judgment in determining the underlying estimates.

On the consolidated balance sheets, the short-term portion of the warranty provision is included in other accrued liabilities, while the long-term portion is included in other long-term liabilities. The expense associated with product warranties issued or adjusted is included in cost of net revenues on the consolidated statements of income.

The following table displays the activity in the warranty provision account for fiscal 2019 and 2018:

	2019	2018
	(in thousands)	
Beginning balance	$ 997	$ 994
Expenditures incurred under warranties	(625)	(561)
Accruals for product warranties	955	641
Adjustments to previously existing warranty accruals	(305)	(77)
Ending balance	$1,022	$ 997

Legal Matters

From time to time, Intevac receives notification from third parties, including customers and suppliers, seeking indemnification, litigation support, payment of money or other actions in connection with claims made against them. In addition, from time to time, Intevac receives notification from third parties claiming that Intevac may be or is infringing their intellectual property or other rights. Intevac also is subject to various other legal proceedings and claims, both asserted and unasserted, that arise in the ordinary course of business. Although the outcome of these claims and proceedings cannot be predicted with certainty, Intevac does not believe that any of these other existing proceedings or claims will have a material adverse effect on its consolidated financial condition or results of operations.

14. Segment and Geographic Information

Intevac's two reportable segments are: TFE and Photonics. Intevac's chief operating decision-maker has been identified as the President and CEO, who reviews operating results to make decisions about allocating resources and assessing performance for the entire Company. Segment information is presented based upon Intevac's management organization structure as of December 28, 2019 and the distinctive nature of each segment. Future changes to this internal financial structure may result in changes to the reportable segments disclosed.

Each reportable segment is separately managed and has separate financial results that are reviewed by Intevac's chief operating decision-maker. Each reportable segment contains closely related products that are unique to the particular segment. Segment operating profit is determined based upon internal performance measures used by the chief operating decision-maker.

Intevac derives the segment results from its internal management reporting system. The accounting policies Intevac uses to derive reportable segment results are substantially the same as those used for external reporting purposes. Management measures the performance of each reportable segment based upon several metrics, including orders, net revenues and operating income. Management uses these results to evaluate the performance of, and to assign resources to, each of the reportable segments. Intevac manages certain operating expenses separately at the corporate level. Intevac allocates certain of these corporate expenses to the segments in an amount equal to 3% of net revenues. Segment operating income excludes interest income/expense and other financial charges and income taxes according to how a particular reportable segment's management is measured. Management does not consider impairment charges, gains and losses on divestitures and sales of intellectual property, and unallocated costs in measuring the performance of the reportable segments.

The TFE segment designs, develops and markets vacuum process equipment solutions for high-volume manufacturing of small substrates with precise thin-film properties, such as for the hard drive, solar cell and DCP industries, as well as other adjacent thin-film markets.

The Photonics segment develops compact, cost-effective, high-sensitivity digital-optical products for the capture and display of low-light images. Intevac provides sensors, cameras and systems for government applications such as night vision.

Information for each reportable segment for fiscal 2019 and 2018 is as follows:

	2019	2018
	(in thousands)	
Net Revenues		
TFE	$ 73,678	$69,348
Photonics	35,207	25,766
Total segment net revenues	$108,885	$95,114

	2019	2018
	(in thousands)	
Operating Profit (Loss)		
TFE	$ 1,747	$(1,335)
Photonics	6,434	440
Total segment operating profit (loss)	8,181	(895)
Unallocated costs	(4,256)	(3,322)
Operating income (loss)	3,925	(4,217)
Interest income	574	516
Other income (expense), net	8	106
Income (loss) before income taxes	$ 4,507	$(3,595)

	2019	2018
	(in thousands)	
Depreciation and Amortization		
TFE	$1,909	$2,387
Photonics	1,310	1,870
Total segment depreciation and amortization	3,219	4,257
Unallocated costs	372	357
Total consolidated depreciation and amortization	$3,591	$4,614

	2019	2018
	(in thousands)	
Capital Additions		
TFE	$2,611	$1,640
Photonics	832	1,295
Total segment capital additions	3,443	2,935
Unallocated	664	309
Total consolidated capital additions	$4,107	$3,244

	2019	2018
	(in thousands)	
Segment Assets		
TFE	$ 51,153	$ 53,867
Photonics	22,071	16,721
Total segment assets	73,224	70,588
Cash and investments	42,024	39,163
Restricted cash	787	1,169
Deferred income taxes	6,252	7,913
Other current assets	752	1,341
Common property, plant and equipment	1,307	1,017
Common operating lease right-of-use assets	1,898	—
Other assets	78	879
Consolidated total assets	$126,322	$122,070

Net property, plant and equipment by geographic region at December 28, 2019 and December 29, 2018 was as follows:

	December 28, 2019	December 29, 2018
	(in thousands)	
United States	$11,420	$11,113
Asia	178	85
Net property, plant & equipment	$11,598	$11,198

15. Restructuring Charges

During the first quarter of fiscal 2018, Intevac substantially completed implementation of the 2018 cost reduction plan (the "2018 Plan"), which reduced expenses and reduced its workforce by 6 percent. The cost of implementing the 2018 Plan was reported under cost of net revenues and operating expenses in the consolidated statements of income. Substantially all cash outlays in connection with the 2018 Plan occurred in the first quarter of fiscal 2018. Implementation of the 2018 Plan reduced salary, wages and other employee-related expenses by approximately $1.8 million on an annual basis.

As of December 28, 2019, activities related to the 2018 Plan were complete.

The changes in restructuring reserves for severance and other employee-related costs associated with the cost reduction plan for fiscal 2018, are as follows.

	2018
	(in thousands)
Balance at the beginning of the year	$—
Provision for restructuring charges	95
Cash payments made	(95)
Balance at the end of the year	$—

16. Related Party Transaction

A Board member of the Company also serves as the Chief Executive Officer of a supplier. The Company made inventory purchases in the amount of $193,000 and $211,000, respectively, for fiscal 2019 and fiscal 2018, respectively, from this supplier.

Item 9. *Changes In and Disagreements With Accountants on Accounting and Financial Disclosure*

None.

Item 9A. *Controls and Procedures*

Management's Report on Assessment of Internal Controls Over Financial Reporting

Evaluation of Disclosure Controls and Procedures

Based on Intevac's management's evaluation with the participation of the Chief Executive Officer (the "CEO") and the Chief Financial Officer (the "CFO"), as of the end of the period covered by this report, Intevac's CEO and CFO have concluded that Intevac's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended, (the "Exchange Act") are effective to ensure that information required to be disclosed by Intevac in reports that Intevac files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms and is accumulated and communicated to Intevac's management, including Intevac's CEO and CFO, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting for Intevac. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Internal control over financial reporting (as defined in Rule 13a-15(f) ender the Exchange Act) includes those policies and procedures that: (i) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management (with the participation of the CEO and CFO) conducted an evaluation of the effectiveness of Intevac's internal control over financial reporting based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management concluded that Intevac's internal control over financial reporting was effective as of December 28, 2019. BPM LLP, the independent registered public accounting firm that has audited the financial statements included in this report, has issued an attestation report on Intevac's internal control over financial reporting, which is included in their report on the following page.

Changes in Internal Control over Financial Reporting

Beginning December 30, 2018, we implemented ASC 842, Leases. We implemented changes to our processes related to lease recognition and the control activities within them. These included the development of new policies, ongoing lease review requirements, and gathering of information provided for disclosures.

There was no change in our internal control over financial reporting during our fourth quarter of fiscal 2019 that has materially affected, or is reasonably likely to materially affect, Intevac's internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
Intevac, Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Intevac, Inc. (a Delaware corporation) and its subsidiaries (the "Company") as of December 28, 2019, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the "COSO criteria"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 28, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets as of December 28, 2019 and December 29, 2018 and the related consolidated statements of income, comprehensive income, stockholders' equity, and cash flows for each of the two years in the period ended December 28, 2019, and the related notes (collectively referred to as the "consolidated financial statements") of the Company, and our report dated February 12, 2020 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Assessment of Internal Controls Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ BPM LLP

San Jose, California
February 12, 2020

Item 9B. ***Other Information***

None.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance***

The information required by this item relating to the Company's directors and nominees, disclosure relating to compliance with Section 16(a) of the Securities Exchange Act of 1934, and information regarding Intevac's code of ethics, audit committee and stockholder recommendations for director nominees is included under the captions "Election of Directors," "Nominees," "Business Experience of Nominees for Election as Directors," "Board Meetings and Committees," "Corporate Governance Matters," "Section 16(a) Beneficial Ownership Reporting Compliance " and "Code of Business Conduct and Ethics" in the Company's Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference. The information required by this item relating to the Company's executive officers and key employees is included under the caption "Executive Officers of the Registrant" under Item 1 in Part I of this Annual Report on Form 10-K.

Item 11. ***Executive Compensation***

The information required by this item is included under the caption "Executive Compensation and Related Information" in the Company's Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference.

Item 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters***

The information required by this item is included under the caption "Ownership of Securities" in the Company's Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference.

Item 13. ***Certain Relationships and Related Transactions, and Director Independence***

The information required by this item is included under the captions "Certain Transactions" and "Corporate Governance Matters" in the Company's Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference.

Item 14. ***Principal Accountant Fees and Services***

The information required by this item is included under the caption "Fees Paid To Accountants For Services Rendered During 2019" in the Company's Proxy Statement for the 2020 Annual Meeting of Stockholders and is incorporated herein by reference.

PART IV

Item 15. ***Exhibits and Financial Statements***

(a) The following documents are filed as part of this Annual Report on Form 10-K:

1. Financial Statements:

See "Index to Consolidated Financial Statements" in Part II, Item 8 of this Form 10-K.

All other schedules have been omitted since the required information is not present in amounts sufficient to require submission of the schedule or because the information required is included in the consolidated financial statements or notes thereto.

2. Exhibits

Exhibit Number	Description
3.1 (1)	Certificate of Incorporation of the Registrant
3.2 (2)	Bylaws of the Registrant, as amended
4.1	Description of the Registrant's Common Stock
10.1+ (4)	The Registrant's 2004 Equity Incentive Plan, as amended
10.2+ (5)	The Registrant's 2003 Employee Stock Purchase Plan, as amended
10.3+ (6)	The Registrant's 2012 Equity Incentive Plan, as amended
10.4+ (7)	Form of Restricted Stock Unit Agreement for 2012 Equity Incentive Plan
10.5+ (7)	Form of Restricted Stock Agreement for 2012 Equity Incentive Plan
10.6+ (7)	Form of Stock Option Agreement for 2012 Equity Incentive Plan
10.7+ (8)	Form of Performance Based Stock Option Agreement for 2012 Equity Incentive Plan
10.8+ (8)	Form of Outside Director Restricted Stock Unit Agreement for 2012 Equity Incentive Plan
10.9 (9)	Lease dated March 20, 2014 regarding the space located at 3544, 3560, 3570 and 3580 Bassett Street, Santa Clara, California
10.10+ (3)	The Registrant's 401(k) Profit Sharing Plan (P)
10.11 (10)	Director and Officer Indemnification Agreement
10.12+ (9)	The Registrant's Executive Incentive Plan
10.13+ (11)	Offer Letter with Wendell Blonigan
10.14+ (11)	Severance Agreement with Wendell Blonigan
10.15+ (12)	Change in Control Agreement with Jay Cho dated December 10, 2013
10.16+ (13)	Offer Letter with James Moniz
10.17+ (13)	Change in Control Agreement with James Moniz dated October 29, 2014
10.18+ (14)	Severance Agreement and Release of Claims with Andres Brugal dated February 15, 2018
10.19+ (14)	Change in Control Agreement with Timothy Justyn dated March 2, 2018
10.20+ (15)	Form of Change in Control Agreement
21.1	Subsidiaries of the Registrant
23.1	Consent of Independent Registered Public Accounting Firm
24.1	Power of Attorney (see page 70)
31.1	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of Vice-President, Finance and Administration, Chief Financial Officer and Treasurer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

Exhibit Number	Description
32.1	Certifications Pursuant to U.S.C. 1350, adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

(1) Previously filed as an exhibit to the Company's Report on Form 8-K filed July 23, 2007
(2) Previously filed as an exhibit to the Company's Report on Form 8-K filed March 15, 2012
(3) Previously filed as an exhibit to the Registration Statement on Form S-1 (No. 33-97806)
(4) Previously filed as an exhibit to the Company's Form 10-Q filed May 3, 2011
(5) Previously filed as an exhibit to the Company's Definitive Proxy Statement filed April 10, 2019.
(6) Previously filed as an exhibit to the Company's Definitive Proxy Statement filed April 11, 2018
(7) Previously filed as an exhibit to the Company's Form 10-Q filed May 1, 2012
(8) Previously filed as an exhibit to the Company's Form 10-Q filed July 30, 2019
(9) Previously filed as an exhibit to the Company's Form 10-Q filed April 29, 2014
(10) Previously filed as an exhibit to the Company's Form 10-K filed March 14, 2008
(11) Previously filed as an exhibit to the Company's Report on Form 8-K filed July 9, 2013
(12) Previously filed as an exhibit to the Company's Form 10-Q filed October 28, 2014
(13) Previously filed as an exhibit to the Company's Report on Form 8-K filed October 31, 2014
(14) Previously filed as an exhibit to the Company's Form 10-Q filed May 1, 2018
(15) Previously filed as an exhibit to the Company's Report on Form 8-K filed November 15, 2016
(P) Paper exhibit.
\+ Management compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 15(b) of Form 10-K

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on February 12, 2020.

INTEVAC, INC.

/s/ JAMES MONIZ

James Moniz
Executive Vice President, Finance and Administration
Chief Financial Officer and Treasurer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Wendell T. Blonigan and James Moniz and each of them, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ WENDELL T. BLONIGAN (Wendell T. Blonigan)	President, Chief Executive Officer and Director (Principal Executive Officer)	February 12, 2020
/s/ JAMES MONIZ (James Moniz)	Executive Vice President, Finance and Administration, Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)	February 12, 2020
/s/ DAVID S. DURY (David S. Dury)	Chairman of Board	February 12, 2020
/s/ KEVIN D. BARBER (Kevin D. Barber)	Director	February 12, 2020
/s/ DOROTHY D. HAYES (Dorothy D. Hayes)	Director	February 12, 2020
/s/ STEPHEN A. JAMISON (Stephen A. Jamison)	Director	February 12, 2020
/s/ MICHELE F. KLEIN (Michele F. Klein)	Director	February 12, 2020
/s/ MARK P. POPOVICH (Mark P. Popovich)	Director	February 12, 2020
/s/ THOMAS M. ROHRS (Thomas M. Rohrs)	Director	February 12, 2020

[THIS PAGE INTENTIONALLY LEFT BLANK]

[THIS PAGE INTENTIONALLY LEFT BLANK]

INTEVAC