



Notice of 2019 Annual Meeting and Proxy Statement

April 8, 2019 • Sunnyvale, CA





Notice of 2019 Annual Meeting of Stockholders April 8, 2019

Dear Stockholder,

You are cordially invited to attend the 2019 Annual Meeting of Stockholders of Synopsys, Inc., a Delaware corporation, which will be held on April 8, 2019, at 8:00 a.m. Pacific Time at our office located at 1030 West Maude Avenue, Sunnyvale, California 94085. We are holding the meeting for the following purposes, which are more fully described in the attached Proxy Statement:

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|----|---|
| 1. | To elect nine directors nominated by our Board of Directors to hold office until the next annual meeting of stockholders or until their successors have been elected |
| 2. | To approve our 2006 Employee Equity Incentive Plan, as amended, in order to, among other items, increase the number of shares available for issuance under the plan by 3,200,000 shares |
| 3. | To approve, on an advisory basis, the compensation of our named executive officers, as disclosed in this Proxy Statement |
| 4. | To ratify the selection of KPMG LLP as our independent registered public accounting firm for the fiscal year ending November 2, 2019 |

We will also consider any other business that properly comes before the annual meeting or any adjournment or postponement thereof. As of the close of business on February 8, 2019, we are not aware of any other matters to be submitted for consideration at the annual meeting.

All of our stockholders of record at the close of business on February 8, 2019 are entitled to attend and vote at the annual meeting. A list of registered stockholders entitled to vote at the meeting will be available at our office located at 690 East Middlefield Road, Mountain View, California 94043, for ten days prior to the meeting and at the meeting location during the meeting.

Whether or not you plan to attend the annual meeting, we urge you to cast your vote. For most items being put to a vote, if you do not provide voting instructions in person, via the Internet, by telephone, or by returning the proxy card or voting instruction card, your shares will not be voted. Please vote as promptly as possible. Every stockholder vote is important.

Sincerely yours,

A handwritten signature in black ink, appearing to read "John F. Runkel, Jr.", is written over a light blue horizontal line.

John F. Runkel, Jr.
*General Counsel and
Corporate Secretary*

Mountain View, California
February 15, 2019

**Important Notice Regarding the Internet Availability of Proxy Materials
for the Annual Meeting to Be Held on April 8, 2019**

The Proxy Statement and our 2018 Annual Report on Form 10-K will be released to stockholders at <http://materials.proxyvote.com/871607> on or about February 22, 2019

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Proxy Statement for the 2019 Annual Meeting of Stockholders to Be Held on April 8, 2019

We are providing these proxy materials to you in connection with Synopsys' 2019 Annual Meeting of Stockholders to be held on Monday, April 8, 2019 at 8:00 a.m. Pacific Time at our office located at 1030 West Maude Avenue, Sunnyvale, California 94085 (referred to in this Proxy Statement as the Annual Meeting). The solicitation by this Proxy Statement is made by Synopsys, Inc.

This Proxy Statement contains important information for you to consider when deciding how to vote on the matters brought before the Annual Meeting. Please read it carefully. You do not need to attend the Annual Meeting in order to vote.

If your shares are held through a broker, bank, or other agent and not in your name, your broker is not permitted to vote on your behalf on proposals where broker discretionary votes are not allowed, as indicated below. Therefore, for most items being put to a vote, if you do not provide voting instructions in person, via the Internet, by telephone, or by returning the proxy card or voting instruction card, your shares will not be voted.

We strongly encourage all stockholders to vote, and to do so as promptly as possible. The deadline for voting by Internet or phone is 11:59 p.m. Eastern Time on Sunday, April 7, 2019.

Annual Meeting Agenda

Proposal	Proxy Statement Page Numbers	Board's Recommendation	Vote Required for Approval	Broker Discretionary Votes Allowed
Proposal 1: Election of Directors	2–18	FOR all nominees	The nine nominees receiving the highest number of FOR votes will be elected. Nominees receiving more WITHHOLD votes than FOR votes must offer their resignation to the Board.	No
Proposal 2: Approval of Our 2006 Employee Equity Incentive Plan, as Amended	19–30	FOR	FOR votes must exceed votes AGAINST.	No
Proposal 3: Advisory Vote to Approve Executive Compensation	31–65	FOR	FOR votes must exceed votes AGAINST.	No
Proposal 4: Ratification of Selection of Independent Registered Public Accounting Firm	66–67	FOR	FOR votes must exceed votes AGAINST.	Yes

Questions and Answers about the Annual Meeting and Voting

Please see the "About the Annual Meeting" section beginning on page 73 for answers to common questions about the Annual Meeting, voting, attendance, submitting a proposal for next year's annual meeting of stockholders, and other procedures.

A Note about Our Fiscal Year

Our fiscal year ends on the Saturday nearest to October 31. Fiscal 2018 ended on November 3, 2018. Fiscal 2019 will end on November 2, 2019.

Proposal 1 – Election of Directors

We are asking our stockholders to vote “For” the election of our directors at the Annual Meeting. We do not have a classified or staggered Board of Directors. Each of our directors stands for election on an annual basis, and of the nine current directors whose term expires in 2019, all are standing for re-election.

The Corporate Governance and Nominating Committee of our Board of Directors (referred to in this Proxy Statement as the Governance Committee), consisting solely of independent directors as determined by the Board under applicable Nasdaq listing standards, recommended each of our nine current directors for nomination by our full Board. Based on that recommendation, our Board has nominated our nine current directors for election at the Annual Meeting.

Provided that there is a quorum at the Annual Meeting, the nine nominees receiving the highest number of “For” votes of the shares present in person or represented and entitled to vote at the Annual Meeting will be elected as directors. In the event a nominee is unable or declines to serve as a director, the proxies will be voted at the Annual Meeting for any nominee who may be designated by our Board to fill the vacancy. As of the date of this Proxy Statement, our Board is not aware of any nominee who is unable or will decline to serve as a director. Each director to be elected at the Annual Meeting will serve until our next annual meeting of stockholders and until his or her successor is elected and qualified or, if earlier, the director’s death, resignation or removal.

You may either vote “For” all the nominees or you may “Withhold” your vote for any nominee you specify. Unless marked otherwise, proxies returned to us will be voted for each of the nominees named below. If you hold your shares through a bank, a broker or other holder of record, you must instruct your bank, broker or other holder of record to vote such that your vote can be counted for this Proposal 1. Broker non-votes will have no effect on the vote for this Proposal 1.

Proposal 1 is an uncontested election. In addition to the voting requirements under Delaware law described above, our Corporate Governance Guidelines provide that in an uncontested election, any nominee for director who receives a greater number of votes “Withheld” from his or her election than votes “For” such election will, promptly following certification of the stockholder vote, submit to our Board a letter of resignation for consideration by the Governance Committee. Our Board, after taking into consideration the recommendation of the Governance Committee, will determine whether to accept the director’s resignation. Synopsys will publicly disclose the decision reached by our Board and the reasons for such decision.

Our Board of Directors Recommends that You Vote FOR All Nominees

Our Director Nominees

Information regarding our nominees, including information they have furnished as to their principal occupations, certain other directorships they hold, or have held, and their ages as of the Record Date, February 8, 2019, is set forth below. The section titled “Director Nominations” on page 15 of this Proxy Statement provides additional information on the director nomination process. The nominee descriptions below and the section titled “Director Qualifications” on page 14 of this Proxy Statement contain information about the experience, qualifications and skills that led the Governance Committee to determine that these nominees should serve as our directors.

Other than Dr. de Geus and Dr. Chan, all nominees are independent as determined by the Board under applicable federal securities law and the listing standards of the Nasdaq Global Select Market. There are no family relationships among any of the director nominees, directors and/or any of Synopsys’ executive officers. In addition, no nominee has an arrangement or understanding with another person under which he or she was or is to be selected as a director or nominee.

Aart J. de Geus

Co-Chief Executive Officer and Chairman of the Board

Age: 64

Director since 1986

Public Company Directorships:

- Applied Materials, Inc.

Dr. de Geus co-founded Synopsys and has served as Chairman of our Board of Directors since February 1998 and Chief Executive Officer since January 1994. He has served as co-Chief Executive Officer with Dr. Chi-Foon Chan since May 2012. Since the inception of Synopsys in December 1986, Dr. de Geus has held a variety of positions, including President, Senior Vice President of Engineering and Senior Vice President of Marketing. He has served as a director since 1986, and has served as Chairman of our Board from 1986 to 1992 and again from 1998 until present. Dr. de Geus has also served on the board of directors of Applied Materials, Inc. since July 2007.

As a co-founder of Synopsys, Dr. de Geus has led Synopsys for over 32 years, and is considered a pioneer in the electronic design automation (referred to as EDA in this Proxy Statement) industry. Dr. de Geus brings to our Board a unique and thorough understanding of our business, industry and culture. He provides strong executive leadership and vision and maintains a global network of customer and industry relationships. Dr. de Geus also provides our Board with public company board experience.

Chi-Foon Chan

Co-Chief Executive Officer and President

Age: 69

Director since 1998

Dr. Chan has served as our co-Chief Executive Officer since May 2012 and as our President and a member of our Board of Directors since February 1998. Prior to his appointment as our co-Chief Executive Officer, he served as our Chief Operating Officer since April 1997. Dr. Chan joined Synopsys in May 1990 and has held various senior management positions, including Executive Vice President, Office of the President from September 1996 to February 1998 and Senior Vice President, Design Tools Group from February 1994 to April 1997. Dr. Chan previously held senior management and engineering positions at NEC Electronics and Intel Corporation.

Dr. Chan brings to our Board senior executive-level leadership, strategic, and operational experience with Synopsys as well as within the overall EDA industry. Dr. Chan has been with Synopsys for over 28 years and served as our Chief Operating Officer and President for over 15 years before being appointed co-Chief Executive Officer, thus providing our Board with a thorough understanding of our business, operations and technology strategies. He has broad knowledge of the overall EDA industry landscape, and he provides particular expertise in the Asia-Pacific region. Dr. Chan also provides our Board with extensive research and development and engineering experience in the semiconductor industry gained from his leadership positions at NEC and Intel.

Janice D. Chaffin

Age: 64
Director since 2014
Independent

Synopsys Board Committees during fiscal 2018:

- Audit

Synopsys Board Committees during fiscal 2019:

- Compensation
- Governance

Public Company Directorships:

- Electronics for Imaging, Inc.
- PTC, Inc.

Former Public Company Directorships Held in Last Five Years:

- International Game Technology

Ms. Chaffin was appointed to our Board of Directors in December 2014. She held several senior executive positions with Symantec Corporation, most recently as Group President, Consumer Business Unit, from April 2007 to March 2013, and previously as Executive Vice President and Chief Marketing Officer from 2006 to 2007 and Senior Vice President and Chief Marketing Officer from 2003 to 2006. Before joining Symantec, Ms. Chaffin spent more than twenty years with Hewlett-Packard Company in a variety of management and marketing leadership positions. Ms. Chaffin has served on the board of directors of PTC, Inc. since August 2013 and the board of directors of Electronics for Imaging, Inc. since November 2018. She previously served on the board of directors of Informatica Corporation from 2001 to 2008, and the board of directors of International Game Technology from September 2010 to April 2015.

Ms. Chaffin has extensive senior management experience with large technology companies. As the former Group President, Consumer Business Unit, of Symantec Corporation, a provider of security, storage and systems management solutions, Ms. Chaffin provides our Board with demonstrated expertise in strategic marketing and global operations in the software industry, as well as significant experience with cybersecurity matters. Ms. Chaffin also provides our Board with significant public company board experience, serving as a director of PTC, Inc. and Electronics for Imaging, Inc.

Bruce R. Chizen

Age: 63
Director since 2001
Independent

Synopsys Board Committees:

- Compensation
- Governance

Public Company Directorships:

- Oracle Corporation

Mr. Chizen has been a member of our Board of Directors since April 2001. He is currently an independent consultant and has served as Senior Adviser since July 2008 and PGO Partner since June 2018 with Permira Advisers LLP, and Venture Partner with Voyager Capital since July 2009. From November 2007 to November 2008, Mr. Chizen served as a strategic adviser to Adobe Systems Incorporated, a provider of design, publishing and imaging software for print, Internet and dynamic media production. From December 2000 to November 2007, he served as Adobe's Chief Executive Officer and served as its President from April 2000 to January 2005. He held various other positions at Adobe dating back to 1994. Mr. Chizen has served on the board of directors of Oracle Corporation since July 2008, and he previously served on the board of directors of Adobe from December 2000 to April 2008.

Mr. Chizen has significant expertise in the management of complex global organizations. As the former Chief Executive Officer of Adobe, Mr. Chizen provides our Board with executive-level insight into the challenges associated with operating a multi-billion dollar company in a high technology industry. Additionally, Mr. Chizen brings significant financial, product management and marketing expertise, which he gained through various leadership positions at Adobe. Mr. Chizen also provides extensive public company board experience to our Board.

Mercedes Johnson

Age: 64
Director since 2017
Independent

Synopsys Board Committees:

- Audit (*Chair*)

Public Company Directorships:

- Juniper Networks, Inc.
- Teradyne, Inc.

Former Public Company Directorships Held in Last Five Years:

- Intersil Corporation
- Micron Technology, Inc.

Ms. Johnson has been a member of our Board of Directors since February 2017. Ms. Johnson previously served as Interim Chief Financial Officer of Intersil Corporation from April 2013 to September 2013, Chief Financial Officer of Avago Technologies, Inc. from 2005 to 2008, and Senior Vice President, Finance and Chief Financial Officer of Lam Research Corporation from 1997 to 2004. For the past 13 years, Ms. Johnson has served as a board member for a number of public companies including Storage Technology Corporation, Intersil Corporation, Micron Technology, Inc., Juniper Networks, Inc. and Teradyne, Inc.

Ms. Johnson brings a wealth of experience from her current and previous board and chief financial officer roles at public and private companies. She provides both a domestic and international perspective having served on the boards and audit committees of multi-billion dollar technology companies with a worldwide presence. Besides financial expertise, Ms. Johnson bring significant information technology and semiconductor experience, which she gained through various leadership positions at Avago Technologies, Inc., Lam Research Corporation and Applied Materials, Inc.

Chrysostomos L. “Max” Nikias

Age: 66
Director since 2011
Independent

Synopsys Board Committees:

- Compensation (*Chair*)

Dr. Nikias has been a member of our Board of Directors since July 2011. Dr. Nikias served as President of the University of Southern California (USC) from August 2010 to August 2018. He currently serves as Professor of Electrical Engineering, and he is the holder of the Malcolm R. Currie Chair in Technology and the Humanities, and Life Trustee of USC. Dr. Nikias served as USC's provost from 2005 through 2010 and as dean of USC's Viterbi School of Engineering from 2001 through 2005. From 1996 through 2001, he was the founding director of the National Science Foundation-funded Integrated Media Systems Center. Dr. Nikias has worked as a consultant for numerous corporations and the U.S. government, including the U.S. Department of Defense. Dr. Nikias is a member of the National Academy of Engineering, a fellow of the American Academy of Arts & Sciences, a life fellow of the Institute of Electrical and Electronics Engineers (IEEE), a fellow of the American Association for the Advancement of Science (AAAS), and a charter fellow of the National Academy of Inventors. He has received the IEEE Simon Ramo medal for exceptional achievement in systems engineering.

Dr. Nikias has extensive experience in directing engineering research and development programs, as well as a deep understanding of global technology trends. A recognized scholar in the fields of digital signal processing and communications systems, among others, Dr. Nikias provides our Board with broad engineering knowledge.

John Schwarz

Age: 68
Director since 2007
Independent

Synopsys Board Committees:

- Governance (*Chair*)

Public Company Directorships:

- Avast PLC
- Teradata Corporation

Mr. Schwarz has been a member of our Board of Directors since May 2007. Since May 2010, Mr. Schwarz has served as co-founder and Chief Executive Officer of Visier Inc., a business analytics software firm. Mr. Schwarz previously served on the executive board of SAP AG from March 2008 to February 2010. Mr. Schwarz was the Chief Executive Officer of Business Objects S.A., a provider of business intelligence software and services, from September 2005 through its acquisition by SAP in January 2008, and he served as the Chief Executive Officer of SAP's Business Objects unit through February 2010. Mr. Schwarz served on Business Objects' board of directors from January 2006 until its acquisition in January 2008. Mr. Schwarz has also served as the President and Chief Operating Officer of Symantec Corporation and as President and Chief Executive Officer of Reciprocal Inc. Mr. Schwarz previously spent 25 years at IBM Corporation, where he was most recently General Manager of IBM's Industry Solutions Unit. Mr. Schwarz has served as a director at Teradata Corporation since September 2010, a director at Avast PLC since December 2011, and the Chairman of Avast's board of directors since 2014.

As the former Chief Executive Officer of Business Objects S.A., Mr. Schwarz led a large international software company and brings to our Board extensive management expertise and knowledge of the software industry. Furthermore, Mr. Schwarz provides significant cybersecurity experience to our Board through his previous role at Symantec Corporation and his current roles at Avast PLC and Visier Inc. Mr. Schwarz understands the complexities of leading a global organization and operating in international markets. Mr. Schwarz also provides our Board with public company board experience.

Roy Vallee

Lead Independent Director

Age: 66
Director since 2003
Independent

Synopsys Board Committees:

- Audit

Public Company Directorships:

- Teradyne, Inc.

Mr. Vallee has been a member of our Board of Directors since February 2003. From July 2011 to November 2012, Mr. Vallee served as Executive Chairman of the board of directors of Avnet, Inc., a global semiconductor/electronics products and IT distributor. From July 1998 to June 2011, Mr. Vallee served as Avnet's Chief Executive Officer and Chairman of the board of directors. Mr. Vallee also previously served as Avnet's Vice Chairman, President, and Chief Operating Officer. Since February 2000, Mr. Vallee has served on the board of directors of Teradyne, Inc., and he has been its Chairman of the board of directors since May 2014. Mr. Vallee served on the board of directors of the Federal Reserve Bank of San Francisco from January 2013 to December 2016, and as Chairman of the board of directors from January 2015 to December 2016.

Mr. Vallee provides our Board with significant executive-level leadership expertise, as well as thorough knowledge of the semiconductor industry. Mr. Vallee led Avnet for over 14 years, as CEO and Executive Chairman, and understands the challenges of managing a public technology company in a highly competitive industry. Mr. Vallee also brings public company board experience to our Board and insight into macroeconomic conditions through his previous board role with the Federal Reserve.

Steven C. Walske

Age: 66
Director since 1991
Independent

Synopsys Board Committees during fiscal 2018:

- Compensation
- Governance

Synopsys Board Committees during fiscal 2019:

- Audit

Mr. Walske has been a member of our Board of Directors since December 1991. Mr. Walske has been the Managing Director of Myriad Investments, LLC, a private equity firm specializing in investments in software companies, since June 2000. From 1986 through June 2000, Mr. Walske held several executive-level positions at Parametric Technology Corporation, including Chief Executive Officer, President and Chairman of the board of directors. Mr. Walske served on the board of directors of BladeLogic, Inc. from November 2002 to April 2008, holding the Chairman position from September 2005 to April 2008.

As a private equity investor, Mr. Walske provides our Board with financial and strategic planning expertise, as well as extensive knowledge of the software industry and other high-tech industries. Having served as the former Chief Executive Officer of Parametric Technology Corporation, Mr. Walske brings product development and executive-level management expertise as well as an understanding of complex global organizations. Mr. Walske also provides our Board with extensive public company board experience.

Corporate Governance

Corporate Governance Guidelines

Our Board of Directors is committed to sound and effective corporate governance practices. Accordingly, our Board has adopted Corporate Governance Guidelines, which are intended to describe the governance principles and procedures by which the Board functions. Our Board regularly reviews and evaluates these guidelines. Among other matters, the Corporate Governance Guidelines cover board composition, board membership criteria, director responsibilities, board committees, evaluation of our co-Chief Executive Officers, board self-assessment and succession planning. The Corporate Governance Guidelines are available on our website at: <https://www.synopsys.com/company/corporate-governance-values/governance-guidelines.html>

Copies of the Corporate Governance Guidelines are also available in print upon written request to Investor Relations, Synopsys, Inc., 690 East Middlefield Road, Mountain View, California 94043.

Code of Ethics and Business Conduct

Our Board of Directors is committed to ethical business practices and, therefore, we have adopted a Code of Ethics and Business Conduct applicable to all of our Board members, employees and executive officers, including our co-Chief Executive Officers (Co-Principal Executive Officers), Chief Financial Officer (Principal Financial Officer) and Vice President, Corporate Controller (Principal Accounting Officer). The Code of Ethics and Business Conduct is available on our website at: <https://www.synopsys.com/content/dam/synopsys/company/corporate-governance/code-ethics-business-conduct-worldwide-english.pdf>

Synopsys intends to satisfy the public disclosure requirements regarding (1) any amendments to the Code of Ethics and Business Conduct, or (2) any waivers under the Code of Ethics and Business Conduct given to Synopsys' Principal Executive Officers, Principal Financial Officer and Principal Accounting Officer by posting such information on its website.

Board Leadership Structure

Our Board of Directors believes it is important to have flexibility in selecting our Chairman and board leadership structure. Accordingly, our Corporate Governance Guidelines allow for the positions of Chairman and Chief Executive Officer to be held by the same person. The Board of Directors believes that it is currently in the best interest of Synopsys and its stockholders for Dr. de Geus to serve in both roles. Dr. de Geus co-founded Synopsys and has extensive knowledge of Synopsys, its industry and its culture. He has successfully guided Synopsys through both strong and challenging periods, and his ability to speak as both Chairman and co-CEO provides strong, consistent leadership for Synopsys.

Lead Independent Director

Our guidelines also provide for the appointment of a Lead Independent Director in the event that the positions of Chairman and CEO are held by the same person. Mr. Vallee has served as our Lead Independent Director since February 2017. The responsibilities of our Lead Independent Director include:

- Establishing the agenda for regular Board meetings with the Chairman;
- Reviewing and advising on the schedule of regular Board meetings with the Chairman;
- Serving as chairperson of regular Board meetings when the Chairman is unavailable;
- Calling executive sessions of the independent directors, and establishing the agenda for, and presiding at, such sessions;
- Providing feedback from executive sessions to management;
- Serving as liaison between the co-CEOs and the independent directors;
- Participating in the annual performance evaluation of the co-CEOs;
- Encouraging dialogue between the independent directors and management; and
- Consulting with stockholders at management's request.

Our Board believes the role of Lead Independent Director provides an appropriate balance in Synopsys' leadership to the combined role of Chairman and CEO, and that the responsibilities assigned to the Lead Independent Director help ensure a strong, independent and active Board.

Director Independence

Our Corporate Governance Guidelines require that a majority of our Board qualifies as independent directors in accordance with applicable federal securities laws and the listing standards of the Nasdaq Global Select Market. Currently, each member of our Board, other than our co-Chief Executive Officer and Chairman of the Board, Aart de Geus, and co-Chief Executive Officer and President, Chi-Foon Chan, is an independent director. All standing committees of the Board are composed entirely of independent directors, in each case under Nasdaq's independence definition. The Nasdaq definition includes a series of objective tests to determine independence, including that the director not be an employee of the company and not have engaged in various types of business dealings with the company. In addition, the Board has made a subjective determination as to each independent director that no relationship exists which, in the opinion of the Board, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

In making these determinations, the Board reviewed and discussed information provided by the directors and Synopsys with regard to each director's business and other outside activities as they may relate to Synopsys and our management. This information included commercial transactions that we entered into, or proposed entering into, in fiscal 2018 with Juniper Networks, Inc; Micron Technology, Inc.; Oracle Corporation; PTC, Inc.; Teradata Corporation; Teradyne, Inc.; and Visier, Inc. Our non-employee directors or their immediate family members have relationships with these companies. We consider each of these transactions to be at arms' length and in the ordinary course of business. We do not consider any of these transactions to be related person transactions requiring disclosure under the applicable rules of the Securities and Exchange Commission.

Based on this review and consistent with our independence criteria, the Board has affirmatively determined that all of the directors who are standing for election to our Board except for Dr. de Geus and Dr. Chan are independent.

Board Meetings and Committees

Our Board of Directors held six meetings during fiscal 2018. During the year, our Board maintained an Audit Committee, a Compensation Committee and a Corporate Governance and Nominating Committee. All such committees have written charters which are available on our website at: <https://www.synopsys.com/company/corporate-governance-values/board-committees.html>

The following table summarizes the current composition of our Board committees:

Director	Audit Committee	Compensation Committee	Governance Committee
Aart J. de Geus, Chairman of the Board			
Chi-Foon Chan			
Janice D. Chaffin(1)		•	•
Bruce R. Chizen		•	•
Mercedes Johnson	Chair		
Chrysostomos L. "Max" Nikias		Chair	
John Schwarz			Chair
Roy Vallee, Lead Independent Director	•		
Steven C. Walske(2)	•		
Total committee meetings held in fiscal 2018	9	6	4

(1) Ms. Chaffin transitioned from the Audit Committee to the Compensation Committee and Governance Committee in December 2018.

(2) Mr. Walske transitioned from both the Compensation Committee and Governance Committee to the Audit Committee in December 2018.

The principal responsibilities of each Board committee are summarized below. For a more extensive description of committee functions, please refer to the committee charters.

Audit Committee

Members	Mercedes Johnson (<i>Chair</i>), Roy Valle and Steven C. Walske ⁽³⁾ .
Number of fiscal 2018 meetings	Nine
Responsibilities	The Audit Committee acts on behalf of our Board, performing financial oversight responsibilities relating to: • The integrity of our financial statements, financial reporting processes and systems of internal accounting and financial controls • Our internal audit function • The annual independent audit of our financial statements • The engagement of our independent registered public accounting firm and evaluation of their performance and independence • Compliance with legal and regulatory requirements that pertain to our financial statements, internal controls over financial reporting, and disclosure controls
Independence	All members of our Audit Committee are considered independent under the applicable requirements of the Securities and Exchange Commission and the listing standards of the Nasdaq Global Select Market.
Audit Committee financial experts	Our Board has determined that Ms. Johnson, Mr. Vallee and Mr. Walske each qualify as an “audit committee financial expert” within the meaning of the regulations of the Securities and Exchange Commission.

(3) Mr. Walske succeeded Ms. Chaffin as a member of the Audit Committee in December 2018.

Compensation Committee

Members	Chrysostomos L. “Max” Nikias (<i>Chair</i>), Janice D. Chaffin(4) and Bruce Chizen
Number of fiscal 2018 meetings	Six
Responsibilities	The Compensation Committee primarily reviews and approves our general compensation policies, sets compensation levels for our executive officers (including our co-CEOs), and administers our equity incentive plan, employee stock purchase plan, deferred compensation plans and 401(k) plan. The Compensation Committee also reviews our non-employee director compensation and recommends any changes to the Board for approval. The Compensation Committee’s processes for determining executive compensation are described in the section “Compensation Discussion and Analysis” beginning on page 32.
Independence	All members of our Compensation Committee are considered independent under the applicable requirements of the Securities and Exchange Commission and the listing standards of the Nasdaq Global Select Market. Each member of the Compensation Committee is also a “non-employee director” for purposes of Rule 16b-3 under the Exchange Act.

Governance Committee

Members	John Schwarz (<i>Chair</i>), Janice D. Chaffin(4) and Bruce Chizen
Number of fiscal 2018 meetings	Four
Responsibilities	The Governance Committee identifies and recommends to our Board candidates for membership on our Board and Board committees, reviews Board performance, oversees corporate governance matters, and reviews such other matters relating to our management as it deems appropriate. Our Governance Committee also reviews and discusses with management our strategy regarding mergers and acquisitions and strategic investments. Our Governance Committee’s policy regarding consideration of director candidates submitted by stockholders is set forth below under “Director Nominations.” The Governance Committee recommended the nine nominees for election to our Board at the Annual Meeting.
Independence	All members of our Governance Committee are considered independent under the applicable listing standards of the Nasdaq Global Select Market.

- (4) Ms. Chaffin succeeded Mr. Walske as a member of both the Compensation Committee and the Governance Committee in December 2018.

Each director attended at least 75% of all Board and applicable committee meetings that were held during his or her period of service as a director in fiscal 2018.

Executive Sessions

The independent directors meet in executive sessions without management directors or management present. These sessions take place prior to or following regularly scheduled Board meetings. The directors met three times in such sessions during fiscal 2018.

Risk Oversight

Our Board is responsible for the oversight of our company-wide risk management efforts and delegates the assessment and implementation of our day-to-day risk management policies to our management. Our Board is directly involved in overseeing risk management issues related to significant matters such as our overall business strategy, major strategic transactions, and executive officer succession through its regular communications with management.

Information technology and data security, particularly cybersecurity, is a top area of focus for our Board. Our Board is actively involved in overseeing cybersecurity risk management, both through presentations given by members of management during Board meetings as well as regular reports from the Audit Committee on its cybersecurity risk oversight activities. In December 2018, the Board transitioned the specific responsibility of cybersecurity risk oversight from our Audit Committee to our Governance Committee, simultaneous with the change in composition of our Governance Committee members.

The Governance Committee, which is now comprised of multiple individuals with significant experience in cybersecurity and related matters, will meet more frequently with members of management to review our information technology and data security policies and practices, and to assess current and projected threats, cybersecurity incidents, and related risks.

Additionally, each of our standing Board committees has individual oversight responsibilities:

Committee	Primary Areas of Risk Oversight
Audit	• Risks related to financial reporting and controls. • Supervision of the work performed by our independent registered public accounting firm and our internal audit function. • Supervision of our anonymous and confidential ethics reporting system, which encourages and allows any employee to submit concerns directly to senior management and the Audit Committee. • Risks relating to our investments, financing activities, taxes, and world-wide insurance programs. • Review and approval of related person transactions. • Evaluation of enterprise risk issues.
Compensation	• Risks related to our cash and equity compensation programs and practices. • For additional information regarding the Compensation Committee's assessment of our compensation-related risk, please see the subsection titled "Compensation Risk Assessment" in the "Compensation Discussion and Analysis" section on page 32 below.
Governance	• Risks related to our overall corporate governance, including our governance policies and principles. • Risks related to the composition and structure of our Board of Directors and its committees, which includes annual evaluation of our Board and Board committees and periodic review of Board member and executive officer succession plans. • Risks related to information technology security and data security. • The committee chairperson may investigate concerns applicable to our Board and its committees raised through our confidential ethics reporting system.

Share Ownership Guidelines

In order to better align the interests of our Board members and management with the interests of our stockholders, our Board of Directors first adopted share ownership guidelines in fiscal 2003. Under the current guidelines, non-employee directors are expected to achieve a share ownership level with a value equal to three times the amount of each non-employee director's annual cash retainer (excluding compensation for committee service) or 15,000 shares, within three years of initial election as a director, and maintain such ownership level, as measured each year on the date of the annual meeting of stockholders, so long as they serve in the position of director.

These guidelines also recommend that covered members of management achieve share ownership levels within four years of appointment and maintain such ownership level so long as they serve in such positions as follows: co-Chief Executive Officer—50,000 shares; Chief Financial Officer—10,000 shares; General Counsel—10,000 shares; all other members of our "Corporate Staff"—10,000 shares; and Chief Accounting Officer—2,500 shares.

Each covered member of management is expected to meet the applicable guidelines within four years of becoming a covered person. The guidelines do not require any covered person to exercise stock options or to purchase shares of our common stock on the open market solely to meet these guidelines. However, when stock options are exercised, when restricted stock or restricted stock units vest, or when shares are purchased under our Employee Stock Purchase Plan, the guidelines recommend that the covered person retain a number of shares of common stock equal to the lesser of 25% of the net value of shares of common stock acquired or vested (after deducting the exercise price, if any, and taxes at an assumed tax rate), or a number of shares necessary to reach such person's applicable share ownership guideline amount.

As of February 8, 2019, each non-employee director and named executive officer held the requisite number of shares and was accordingly compliant with the share ownership guidelines.

Political Contributions

In accordance with our Political Activities Policy, Synopsys does not contribute to political parties or candidates, nor do we attempt to influence the outcome of elections through political action committees. We may contribute periodically to local ballot initiatives in California that are consistent with our quality of life goals. We also engage with trade and industry associations in the United States and abroad, which may undertake advocacy on behalf of members. Our Political Activities Policy is available on our website at: <https://www.synopsys.com/company/corporate-governance-values/political-activities-policy.html>

Stockholder Communications with our Board of Directors

Stockholders who wish to communicate with our Board of Directors or one or more individual members of our Board may do so by sending written communications addressed to: Corporate Secretary, Synopsys, Inc., 690 East Middlefield Road, Mountain View, California 94043. All stockholder communications we receive that are addressed to our Board of Directors will be compiled by our Corporate Secretary and forwarded to the specified director(s), if any. If the correspondence is not addressed to a particular director, such correspondence will be forwarded, depending on the subject matter, to the Chairperson of the Audit Committee, Compensation Committee, or Governance Committee.

Board Attendance at Stockholders' Meetings

Synopsys encourages director attendance at our annual stockholder meetings, but does not require attendance or have a formal policy requiring attendance. Attendance by phone is permitted. All then-current directors attended the 2018 Annual Meeting of Stockholders.

Stockholder Engagement

Synopsys is committed to engagement with our stockholders, as we believe that understanding our current and potential stockholders' perspectives is vital to how we conduct our business. We have an ongoing and proactive investor outreach program, utilizing vehicles such as investor conferences, roadshows, on-site meetings and numerous conference calls to ensure two-way discussions about the company's strategy, operations and financial performance and objectives. During fiscal 2018, we augmented this program by holding a series of meetings with the corporate governance leaders of institutional stockholders who own a significant percentage of our outstanding common stock. We believe that ongoing relationships and conversations enable us to better understand their views on important issues such as corporate governance, executive compensation, and corporate social responsibility. The feedback that we receive from our stockholders—through these meetings, regular stockholder outreach, and perception surveys—helps to strengthen our corporate practices over time.

Corporate Social Responsibility

Corporate social responsibility at Synopsys is an important means by which we translate our company values into action and maintain stakeholder trust in our company. Synopsys is actively reducing our environmental footprint through energy management, waste management, and green building. We are committed to providing a safe, secure, and productive environment for our employees, customers, and visitors. We value company and Board diversity and inclusion, and have taken steps to enhance these measures across many dimensions. Furthermore, we support industry-wide efforts to encourage

responsible sourcing of minerals and transparency in supply chains, working with our direct suppliers to ensure transparency in our supply chain. Through our community engagement initiatives, we strengthen local communities, encourage employee engagement, and inspire a new generation of technology leaders. During fiscal 2018, we established a Corporate Social Responsibility Committee, consisting of leaders across the company to drive cross-functional management of our corporate social responsibility program.

Director Qualifications

A top priority for the Governance Committee is to ensure that the Board comprises directors that bring diverse viewpoints and perspectives and exhibit a variety of skills, professional experiences and backgrounds, in order to effectively represent the long-term interests of stockholders. To achieve this, the Governance Committee works with our Board to determine the appropriate experience, qualifications and skills that we seek in Board members in light of our business environment and existing Board composition. When evaluating a particular candidate for Board membership, the Governance Committee and our Board consider many factors, including an understanding of the EDA, semiconductor, electronics, software or technology industries; sufficient experience in business operations, finance, marketing, strategic planning and other relevant disciplines; and professional background such as executive leadership experience and other public company board service. They also consider diversity in their assessment of potential candidates, including diversity of personal background and professional experience, qualifications and skills. The Governance Committee focuses on this through an ongoing year-round process, which includes the annual Board evaluation, discussed below.

All candidates for election or re-election are expected to fully participate in Board activities, including preparation for, attendance at and active participation in meetings of our Board of Directors, not hold positions that would conflict with their responsibilities to us, have a high degree of personal integrity and interpersonal skills, and represent the best interests of all of our stockholders and not just certain constituencies.

The Governance Committee and Board believe that a significant majority of the members of our Board should qualify as independent directors in accordance with our corporate governance guidelines and the listing standards of the Nasdaq Global Select Market. They also deem it appropriate for certain of our executive officers to serve on the Board to provide a first-hand perspective on the operations, management and culture of our business. The Governance Committee and Board believe that it is beneficial for at least one member, and preferably multiple members, of our Board to meet the criteria for an “audit committee financial expert” as defined by the applicable rules of the Securities and Exchange Commission.

We place great emphasis on Board diversity, and actively consider diversity in the recruitment and nomination of directors. The Governance Committee believes that the current composition of the Board reflects the success of those efforts.

Director Tenure

While the Governance Committee and our Board prioritize maintaining a board that is comprised of directors with a diverse set of skills, experiences, and perspectives, they also recognize the importance of balancing these qualifications with the overall tenure of directors in their long-term approach to board refreshment. The fresh viewpoints and philosophies newer directors bring, coupled with the valuable experience and institutional knowledge the longer-tenured directors possess, improve the independent oversight of management and ensure a focus on Synopsys' business strategy.

The Board has appointed three highly-qualified directors since 2010 that bring insight in areas such as strategic marketing in the software industry, research and development programs at a leading academic institution, and information technology systems and financial experience in the semiconductor and software industries. To supplement our newer directors, our longer-tenured directors have extensive knowledge of our operations and have the perspective of overseeing our business activities through economic cycles and across differing competitive environments. While continuing to monitor this aspect, we believe the current mix of our Board members is the appropriate blend of experience and diverse perspectives that play a critical role in supporting us as we continue to compete in existing semiconductor and electronic design industries as well as new and emerging market segments such as mobile, automotive, digital home, Internet of Things (IoT), and cloud computing.

Director Evaluations

In accordance with our Corporate Governance Guidelines, on an annual basis, our Board maintains a process to evaluate the overall Board, the functioning of the committees and each individual member of our Board. A director's qualifications are also evaluated each time the director is considered for Board membership. For directors seeking re-election, the Governance Committee also evaluates the director's overall service, including the director's past attendance at Board and committee meetings, as well as participation in and contributions to the Board.

Director Nominations

The Governance Committee considers candidates for Board membership suggested by our Board members and management. The Governance Committee has, on occasion, retained third-party executive search firms to identify independent director candidates. The Governance Committee will consider persons recommended by our stockholders in the same manner as a nominee recommended by Board members, management, or a third-party executive search firm. After completing the evaluation and review, the Governance Committee makes a recommendation to the full Board as to the persons who should be nominated to our Board of Directors, and our Board determines and approves the nominees after considering the recommendation and report of the Governance Committee.

Stockholders seeking to recommend a prospective nominee should follow the instructions under the headings "Stockholder Communications with our Board of Directors" and "About the Annual Meeting—How can I make a proposal to be voted on at next year's annual meeting of stockholders?" There are no recent material changes to the procedures by which stockholders may recommend nominees for our Board. Stockholder submissions must include the full name of the proposed nominee, a description of the proposed nominee's business experience for at least the previous five years, complete biographical information, a description of the proposed nominee's qualifications as a director and a representation that the stockholder submitting the recommendation is a beneficial or record owner of our stock. Any such submission must be accompanied by the written consent of the proposed nominee to be named as a nominee and to serve as a director if elected. Stockholders who wish to nominate a candidate for election must follow the procedures described in Article II of our Bylaws.

Each director candidate nominated for election at the Annual Meeting is an existing director seeking re-election to our Board of Directors and was previously elected by our stockholders.

Certain Relationships and Related Transactions

Our Code of Ethics and Business Conduct requires that every employee avoid situations where loyalties may be divided between our interests and the employee's own interests. Employees and directors must avoid conflicts of interest that interfere with the performance of their duties or are not in our best interests.

Pursuant to its written charter, the Audit Committee reviews and approves all related party transactions as such term is used in ASC Topic 850 *Related Party Disclosures*, or as otherwise required to be disclosed in our financial statements or periodic filings with the Securities and Exchange Commission, other than (a) grants of equity awards made by our Board of Directors or any committee thereof or pursuant to an automatic grant plan, or (b) payment of compensation authorized by our Board or any committee thereof. Related party transactions include transactions between us, our executive officers and directors, beneficial owners of five percent or greater of our securities, and all other related persons specified under Item 404 of Regulation S-K promulgated by the Securities and Exchange Commission. We have adopted written policies and procedures regarding the identification of related parties and transactions, and the approval process for such transactions. The Audit Committee will consider each proposed transaction in light of the specific facts and circumstances presented, including but not limited to the risks, costs, and benefits to us and the availability from other sources of comparable products or services.

From the beginning of fiscal 2018 until the present, there have been no (and there are no currently proposed) transactions involving an amount in excess of \$120,000 in which Synopsys was (or is to be) a participant and any executive officer, director, five percent beneficial owner of our common stock or member of the immediate family of any of the foregoing persons had (or will have) a direct or indirect material interest, except the compensation arrangements described in this Proxy Statement for our named executive officers and directors.

Director Compensation

Our non-employee directors are compensated for serving on our Board. We do not pay our employees who serve on our Board of Directors any additional compensation for Board membership.

Our Compensation Committee reviews our non-employee director compensation with the assistance of a compensation consultant, Radford (an Aon company), that it has determined to be objective and independent. The Compensation Committee reviews such compensation biennially, at a minimum, and recommends adjustments as appropriate.

Our Compensation Committee believes, based in part on market data (including a survey of market practices and trends among our peer group and the software and semiconductor industries generally) that was provided to and reviewed by our Compensation Committee with Radford, that a combination of cash and equity-based awards is the most effective and appropriate way to compensate our non-employee directors. As part of its review process, both the cash and equity-based award elements are benchmarked by the Compensation Committee against our peer group and the aforementioned industries to ensure that the mix and levels are appropriate and competitive with comparable companies and align our directors' interests with those of our stockholders.

Other than the compensation disclosed below, no director received compensation or other payment in connection with his or her candidacy or service on our Board.

Fiscal 2018 Compensation

As noted above, our non-employee director compensation consists of cash and equity awards. We also reimburse directors for out-of-pocket expenses for travel to Board meetings in accordance with our Corporate Travel Policy.

Cash

For fiscal 2018, we paid non-employee directors an annual retainer of \$125,000 for serving on our Board. We also paid an additional retainer of \$30,000 to our Lead Independent Director, \$30,000 to the chair of the Audit Committee, and \$15,000 to the other members of the Audit Committee. The retainers were paid in advance in four equal payments prior to our regularly scheduled quarterly Board meetings.

Equity

For fiscal 2018, non-employee directors were eligible to receive equity awards under the 2017 Non-Employee Directors Equity Incentive Plan (referred to in this Proxy Statement as the 2017 Directors Plan). The plan provides for automatic grants of equity awards to non-employee members of our Board upon their initial appointment or election, and upon their re-election each year. The 2017 Directors Plan contains limits on the equity awards that may be awarded to non-employee directors in any fiscal year.

Initial Awards. For fiscal 2018, under the 2017 Directors Plan, new non-employee directors were eligible to receive (1) an initial stock option grant with a grant date fair value of \$350,000, which vests in equal installments on the date immediately preceding each of the first three annual meetings following the date of grant, subject to continued Board service through each vesting date; and (2) if appointed to our Board less than eleven months since the most recent annual meeting of stockholders, an "interim award" in the form of restricted stock with a grant date fair market value equal to a pro-rated portion of the annual award of \$175,000, which vests on the date immediately preceding the first annual meeting following the date of grant.

Annual Awards. For fiscal 2018, under the 2017 Directors Plan, each re-elected non-employee director was eligible to receive an annual award comprised of either a stock option grant, a restricted stock grant or a combination of both, as determined by our Board each year. The annual award in fiscal 2018, which was comprised solely of restricted stock, had a grant date fair market value equal to \$175,000. The annual restricted stock award vests on the date immediately preceding the first annual meeting following the date of grant, subject to continued Board service through such date. In the event of a change of control or similar transaction, the vesting of unvested grants will generally accelerate unless assumed by the successor company. Our Board of Directors received restricted stock for the annual award for fiscal 2018 and, as a result, we issued 2,109 shares of restricted stock to each non-employee director.

The following table sets forth a summary of the compensation paid to our non-employee directors for services in fiscal 2018.

Name	Fees Earned or Paid in Cash (\$)	Stock Awards (\$)(1)	Option Awards (\$)(2)	Total (\$)
Janice D. Chaffin	\$ 140,000(3)	\$ 174,962	\$ —	\$ 314,962
Bruce R. Chizen	125,000	174,962	—	299,962
Mercedes Johnson	155,000(4)	174,962	—	329,962
Chrysostomos L. “Max” Nikias	125,000	174,962	—	299,962
John Schwarz	125,000	174,962	—	299,962
Roy Vallee	170,000(5)	174,962	—	344,962
Steven C. Walske	125,000	174,962	—	299,962

- (1) These amounts represent the aggregate grant date fair values, computed in accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 718, *Compensation—Stock Compensation*, of restricted stock awards issued pursuant to the 2017 Non-Employee Directors Equity Incentive Plan. The grant date fair value of these awards is calculated using the closing price of our common stock of \$82.96 on the grant date multiplied by the 2,109 shares granted to each non-employee director. These amounts do not represent the actual value that may be realized by the director upon vesting of such awards. For information on the assumptions used to calculate the value of the awards, refer to Note 10 to the consolidated financial statements contained in our 2018 Annual Report on Form 10-K. Such stock awards vest on the date immediately preceding the first annual meeting following the date of grant. At the end of fiscal 2018, our non-employee directors held the following aggregate numbers of unvested restricted stock awards: Ms. Chaffin—2,972 shares; Mr. Chizen—2,972 shares; Ms. Johnson—2,109 shares; Dr. Nikias—2,972 shares; Mr. Schwarz—2,972 shares; Mr. Vallee—2,972 shares; and Mr. Walske—2,972 shares.
- (2) At the end of fiscal 2018, the only non-employee directors who held outstanding option awards were Ms. Chaffin (34,222 shares, which are fully vested) and Ms. Johnson (30,838 shares, which remain subject to vesting).
- (3) Includes \$15,000 retainer paid to Ms. Chaffin for serving as an Audit Committee member in fiscal 2018.
- (4) Includes \$30,000 retainer paid to Ms. Johnson for serving as the Audit Committee chairperson in fiscal 2018.
- (5) Includes \$15,000 retainer paid to Mr. Vallee for serving as an Audit Committee member and \$30,000 retainer paid to Mr. Vallee for serving as the Lead Independent Director in fiscal 2018.

Proposal 2 – Approval of Our 2006 Employee Equity Incentive Plan, as Amended

We are asking our stockholders to approve our 2006 Employee Equity Incentive Plan, as amended (referred to in this Proxy Statement as the 2006 Employee Plan), to increase the number of shares of common stock, par value \$0.01 per share, available for issuance under the 2006 Employee Plan by 3,200,000 shares, representing approximately 2.14% of our shares of common stock outstanding as of February 8, 2019. We believe equity compensation is a critical tool for employee motivation and retention. We are proposing the share increase to enable us to continue offering effective equity compensation to our employees.

Our Board of Directors approved the 2006 Employee Plan, as amended, in January 2019, subject to stockholder approval. If approved by our stockholders, the amended 2006 Employee Plan will become effective as of the Annual Meeting date.

Approval of the 2006 Employee Plan, as amended, requires the holders of a majority of the shares present in person or represented by proxy and entitled to vote at the Annual Meeting, and voting on this Proposal 2, to vote “For” this Proposal 2. Abstentions and broker non-votes will not be counted as either votes cast “For” or “Against” Proposal 2 and have no effect on the vote for this Proposal 2.

Our Board of Directors Recommends that You Vote FOR the Approval of the 2006 Employee Plan, as Amended

Purpose and Background

The primary goal of the amendment of our 2006 Employee Plan is to provide us with a sufficient reserve of common stock to offer appropriate incentives to our employees. Like other technology companies, we actively compete for highly qualified employees, especially technical employees. Our equity program is a key component of our strategy to attract and retain key individuals, and the share requirements of our equity program have grown with our company.

Each year, the Compensation Committee of our Board of Directors and our management review our overall compensation strategy and determine the allocations of cash and equity compensation in light of our pay for performance philosophy. We continue to believe that equity compensation is critical in motivating key employees and that it effectively aligns employee compensation with stockholder interests. The 2006 Employee Plan is the sole available plan for granting discretionary equity compensation to our employees. If the amended 2006 Employee Plan is not approved and we are unable to grant equity compensation in the future, we may need to consider other compensation alternatives, such as increasing cash compensation.

We are committed to effectively managing our share reserves for equity compensation while minimizing stockholder dilution. For this reason, we carefully manage both our gross burn rate and net burn rate. Gross burn rate reflects equity awards granted during the fiscal year divided by the number of shares outstanding. Net burn rate reflects equity awards granted during the fiscal year less equity awards cancelled and returned to the plan (net equity grants), divided by the number of shares outstanding.

We endeavor to achieve a gross burn rate that approximates the average rate for our peer group companies as well as for the software and services industry more generally, and to achieve burn rates within the limits published by independent shareholder advisory groups, such as Institutional Shareholder Services (referred to in this Proxy Statement as ISS). While there are several methodologies to arrive at burn rates, using current ISS methodology, our gross burn rates for the last three years are well within the guidelines published by ISS. Detailed information about equity awards issued in fiscal 2018 as well as other relevant information is set forth below.

We note that the cornerstone of our compensation philosophy is pay for performance, as discussed in the Compensation Discussion and Analysis beginning on page 32. In that regard, approximately half of the value of the target equity grants to our named executive officers in 2018 was in performance-based RSUs. The balance was in stock option grants, the values of which are directly linked to the appreciation of our stock price.

Important Features of the 2006 Employee Plan

We also note that our 2006 Employee Plan includes additional provisions that are designed to protect our stockholders' interests and to reflect corporate governance best practices, including:

- **Stockholder approval required for additional shares.** The 2006 Employee Plan does not contain an annual "evergreen" provision that provides for automatic increases of shares on an ongoing basis. The 2006 Employee Plan instead authorizes a fixed number of shares, and stockholder approval is required for any increase in the number of shares.
- **No discounted stock options or stock appreciation rights.** The 2006 Employee Plan requires that stock options and stock appreciation rights must have an exercise price equal to or greater than the fair market value of our common stock on the date of grant.
- **Repricing not allowed.** The 2006 Employee Plan expressly prohibits the repricing of equity awards—including the cancellation and re-grant of outstanding equity awards—without prior stockholder approval. The 2006 Employee Plan also expressly prohibits us from buying out stock options whose exercise price exceeds the fair market value of our common stock, often referred to as underwater options, for cash, without stockholder approval.
- **No liberal share recycling.** In general, when awards terminate or are cancelled, the shares reserved for those awards are returned to the share reserve and become available for future awards. However, shares of common stock that are tendered to us in payment of the exercise price of an award or that are withheld to cover tax withholding obligations are not returned to our share reserve.
- **Seven-year term.** All equity awards granted under the 2006 Employee Plan have a term of no more than seven years, thereby limiting the potential for unproductive overhang.
- **Fungible share reserve.** The 2006 Employee Plan has a fungible share reserve, under which the share reserve is depleted at a higher multiple for restricted stock units, restricted stock, and other "full-value awards", in order to minimize stockholder dilution.

New Plan Benefits and Historical Grant Information

No awards have been granted or promised with respect to the additional 3,200,000 shares requested. Awards under our 2006 Employee Plan are made at the discretion of our Board of Directors or the Compensation Committee and are therefore not determinable at this time. The following tables set forth detailed information about our historical equity compensation practices.

Awards Granted to Certain Individuals and Groups under the 2006 Employee Plan

The following table shows, for each of the named executive officers and the various groups indicated, the number of stock options and restricted stock units granted under the 2006 Employee Plan during fiscal 2018:

	Number of Restricted Stock Units Granted(1)	Number of Stock Options Granted(2)
Aart J. de Geus	24,859(3)	120,839
Co-Chief Executive Officer and Chairman of the Board of Directors		
Chi-Foon Chan	24,859(3)	120,839
Co-Chief Executive Officer and President		
Trac Pham	11,877(3)	57,734
Chief Financial Officer		
Joseph W. Logan	11,049(3)	53,706
Sales and Corporate Marketing Officer		
John F. Runkel, Jr.	4,419(3)	21,483
General Counsel and Corporate Secretary		
All executive officers as a group (5 persons)	77,063	374,601
All directors who are not executive officers as a group (7 persons)	—	—
All employees, excluding executive officers, as a group (13,240 persons as of November 3, 2018)(4)	1,417,756	759,084

- (1) The aggregate numbers of restricted stock units granted under the 2006 Employee Plan, since its adoption through February 2, 2019, to Dr. de Geus, Dr. Chan, Mr. Pham, Mr. Logan, Mr. Runkel, all executive officers as a group, all directors who are not executive officers as a group, and all employees (excluding executive officers) as a group were 648,676, 481,843, 94,520, 224,592, 47,575, 1,497,206; none; and 17,547,830. Of those aggregate grant numbers for Dr. de Geus, Dr. Chan, Mr. Pham, Mr. Logan, Mr. Runkel, and all executive officers as a group, 24,788; 24,788; 13,090; 11,140; 5,013; and 78,819 restricted stock units, respectively, are eligible to vest only upon the achievement of pre-established performance goals.
- (2) The aggregate numbers of stock option awards granted under the 2006 Employee Plan, since its adoption through February 2, 2019, to Dr. de Geus, Dr. Chan, Mr. Pham, Mr. Logan, Mr. Runkel, all executive officers as a group, all directors who are not executive officers as a group, and all employees (excluding executive officers) as a group were 2,218,915; 1,738,415; 358,908; 880,269; 209,807; 5,406,314; none; and 16,981,152.
- (3) These restricted stock units required the achievement of pre-established performance goals prior to any vesting of the awards.
- (4) Equity grants in fiscal 2018 under the 2006 Employee Plan were made to an aggregate of 3,132 employees, excluding our executive officers.

Additional Equity Plan Information

The following table provides certain additional information regarding the 2006 Employee Plan and 2017 Directors Plan:

	As of 2/2/19
Total Stock Options Outstanding	6,585,908
Total Restricted Stock Unit Awards Outstanding	3,590,937
Total Common Stock Outstanding	149,276,055
Weighted-Average Exercise Price of Stock Options Outstanding	\$58.96
Weighted-Average Remaining Duration of Stock Options Outstanding	4.35 years
Total Shares Available for Grant under the 2006 Employee Plan	11,681,129
Total Shares Available for Grant under the 2017 Directors Plan	415,613

Information for Burn Rate Calculations

The following table provides detailed information regarding activity under all of our equity plans (except our Employee Stock Purchase Plan) in fiscal 2018.

	Fiscal 2018
Stock Options Granted by Synopsys(1)	1,133,685
Restricted Stock Units Granted by Synopsys(2)	1,494,819
Restricted Stock Awards Granted by Synopsys(3)	14,763
Stock Options Cancelled	178,179
Restricted Stock Units Cancelled(4)	257,646
Restricted Stock Awards Cancelled	863
Weighted-Average Common Stock Outstanding	149,036,497
Common Stock Outstanding at Fiscal Year End	149,264,835

- (1) Granted under the 2006 Employee Plan.
- (2) Granted under the 2006 Employee Plan, and represents the actual number of restricted stock units granted, prior to the application of the fungible share reserve ratio.
- (3) Granted under the 2017 Directors Plan, which does not contain a fungible share reserve ratio. Represents the actual number of restricted stock awards granted.
- (4) Represents the actual number of restricted stock units cancelled, prior to the reverse application of the fungible share reserve ratio.

Description of the 2006 Employee Plan, as Amended

The material terms and provisions of the 2006 Employee Plan, as amended, are summarized below. This summary, however, does not purport to be a complete description of the 2006 Employee Plan. The following summary of the 2006 Employee Plan is qualified in its entirety by reference to the complete text of the 2006 Employee Plan, a copy of which is included as Appendix A to this Proxy Statement. Any stockholder that wishes to obtain a paper copy of the plan document may do so by written request to: Corporate Secretary, Synopsys, Inc., 690 East Middlefield Road, Mountain View, California 94043.

As further described in this Proposal 2, the 2006 Employee Plan has been amended to provide for:

- an increase of 3,200,000 shares in the share reserve and incentive stock option limits; and
- certain clarifying amendments to ease administration, eliminate potential ambiguities in plan interpretation and reflect recent changes in law.

General

The 2006 Employee Plan was originally adopted by our Board of Directors in March 2006 and approved by stockholders in April 2006 as a successor plan to prior stock option plans for our employees. The 2006 Employee Plan provides for the grant of incentive stock options, non-statutory stock options, restricted stock awards, restricted stock units, stock appreciation rights, and other forms of equity compensation (collectively referred to in this Proxy Statement as equity awards). The 2006 Employee Plan also provides the ability to grant performance equity awards and performance cash awards (together referred to in this Proxy Statement as performance awards), which enable our Compensation Committee to use performance criteria in establishing specific targets to be attained as a condition to the vesting of awards.

Incentive stock options granted under the 2006 Employee Plan are intended to qualify as “incentive stock options” within the meaning of Section 422 of the Internal Revenue Code (referred to in this Proxy Statement as the Code). Non-statutory stock options granted under the 2006 Employee Plan are not intended to qualify as incentive stock options under the Code. See “U.S. Federal Income Tax Information” below for a discussion of the tax treatment of equity awards.

Purpose

The 2006 Employee Plan is intended to create an incentive for our eligible employees and consultants to exert maximum efforts toward our success and provides such individuals with the opportunity to benefit from increases in the value of our common stock, thereby aligning their interests with the interests of our stockholders.

Administration

The 2006 Employee Plan provides that our Board of Directors has the authority to construe and interpret the 2006 Employee Plan and to determine the persons to whom and the dates on which equity awards will be granted, the number of shares of common stock to be subject to each equity award, the time or times during the term of each equity award within which all or a portion of the award may be exercised, the exercise, purchase, or strike price of each equity award, the type of consideration permitted to exercise or purchase each equity award, and other terms of the equity awards.

Our Board of Directors has the authority to delegate some or all of the administration of the 2006 Employee Plan to a committee or committees composed of members of our Board. In the discretion of our Board of Directors, a committee may consist solely of two or more (a) “non-employee directors” and/or (b) “outside directors”, in each case as defined in the 2006 Employee Plan. The 2006 Employee Plan also permits delegation of administration of the plan to one or more executive officers with respect to grants to employees of Synopsys and its subsidiaries. Our Board of Directors has delegated to the Compensation Committee administration of the 2006 Employee Plan. Our Board of Directors has also delegated to each of our co-Chief Executive Officers, as both officers and members of our Board of Directors, administration of the 2006 Employee Plan with respect to equity awards to employees other than executive officers, subject to specified limitations and restrictions.

Eligibility

General. As of February 2, 2019, Synopsys had 11,846 eligible employees under the 2006 Employee Plan. Synopsys does not currently expect to grant awards to consultants under the 2006 Employee Plan, but it is permitted to do so under the plan’s terms. Our non-employee directors are not eligible to receive any awards under the 2006 Employee Plan. The requirements for eligibility are further described below, and the basis for participation is being selected by the plan administrator.

Incentive Stock Options. Incentive stock options may be granted under the 2006 Employee Plan only to employees (including executive officers) of Synopsys and its affiliates. The aggregate maximum number of shares of common stock that may be issued pursuant to the exercise of incentive stock options will be 94,797,248 shares of common stock. Stockholder approval of this Proposal 2 will constitute approval of this maximum limit for incentive stock options.

No incentive stock option may be granted under the 2006 Employee Plan to any person who, at the time of the grant, owns (or is deemed to own) stock possessing more than 10% of the total combined voting power of Synopsys or its affiliates, unless the exercise price of such stock option is at least 110% of the fair market value of the stock subject to the stock option on the date of grant and the term of the stock

option does not exceed five years from the date of grant. In addition, the aggregate fair market value, determined on the date of grant, of the shares of common stock with respect to which incentive stock options are exercisable for the first time by a participant during any calendar year (under the 2006 Employee Plan and any other equity plans of Synopsys and its affiliates) may not exceed \$100,000 (any excess of such amount shall be treated as non-statutory stock options).

Non-Statutory Stock Options, Restricted Stock, Restricted Stock Units and Other Awards. Non-statutory stock options, restricted stock, restricted stock units and all other types of equity awards and performance awards authorized under the 2006 Employee Plan may be granted to employees (including executive officers) and consultants of Synopsys and its affiliates.

Individual Limit. No person may be granted stock options or stock appreciation rights under the 2006 Employee Plan covering more than 1,000,000 shares of common stock during any calendar year. The 2006 Employee Plan also includes annual limits on grants of performance awards to individuals, as described below.

Stock Subject to the 2006 Employee Plan

As of February 2, 2019, 11,681,129 shares of common stock were available for future grants under the 2006 Employee Plan. If this Proposal 2 is approved by our stockholders, an additional 3,200,000 shares will be available for future grants under the 2006 Employee Plan. Assuming the stockholders approve this Proposal 2, 94,797,248 shares of our common stock will have been reserved for issuance under the 2006 Employee Plan.

The number of shares of common stock available for issuance under the 2006 Employee Plan is currently reduced by one share for each share of common stock issued pursuant to a stock option or a stock appreciation right and by 1.70 shares for each share of common stock issued on or after March 29, 2016 pursuant to restricted stock awards, restricted stock unit awards or other awards (excluding options and stock appreciation rights).

If a stock option or stock appreciation right award expires or otherwise terminates without being fully exercised, if shares subject to a restricted stock award or restricted stock unit award are forfeited to or repurchased by us, or if an equity award is settled in cash, the shares not issued under those awards, or the shares forfeited to or repurchased by us, become available for subsequent issuance under the 2006 Employee Plan. Such returning shares increase the number of shares available for issuance under the 2006 Employee Plan by one share if they were issued pursuant to a stock option or stock appreciation right and, by 1.70 shares if they were issued pursuant to restricted stock awards, restricted stock unit awards or other awards (excluding options and stock appreciation rights).

If shares subject to an award granted under the 2006 Employee Plan are not delivered to a participant because:

- an equity award is exercised through a reduction in the number of shares subject to the equity award (a “net exercise”),
- the appreciation distribution upon exercise of a stock appreciation right is paid in shares of common stock, or
- shares are withheld in satisfaction of applicable withholding taxes,

then those shares do not become available for subsequent issuance under the 2006 Employee Plan. If the exercise price of an award is satisfied by a participant tendering previously held shares, the tendered shares do not become available for subsequent issuance under the 2006 Employee Plan.

Terms of Stock Options

We may grant stock options under the 2006 Employee Plan pursuant to stock option agreements adopted by our Board of Directors or a duly authorized committee. The following is a description of the permissible terms of stock options under the 2006 Employee Plan. Individual stock option agreements may be more restrictive as to any or all of the permissible terms described below.

Exercise Price. The exercise price of incentive stock options and non-statutory stock options may not be less than 100% of the fair market value of the stock subject to the stock option on the date of grant and, in some cases (see “Eligibility” above), may not be less than 110% of such fair market value.

As of February 1, 2019 (the last trading day of the first quarter of fiscal 2019), the closing price of our common stock as reported on the Nasdaq Global Select Market was \$94.79 per share.

Consideration. The stock option exercise price may, at the discretion of our Board of Directors, be paid in cash or by check, pursuant to a broker-assisted cashless exercise, by delivery of other shares of Synopsys common stock, pursuant to a net exercise arrangement, or in any other form of legal consideration reasonably acceptable to our Board of Directors.

Vesting. Stock options granted under the 2006 Employee Plan vest, or become exercisable, as determined by our Board of Directors. Vesting typically occurs during the optionholder's continued service with Synopsys or an affiliate, whether such service is in the capacity of an employee, director or consultant (collectively referred to as service) and regardless of any change in the capacity of the optionholder, or upon achievement of quantitative or qualitative goals determined by the plan administrator. Shares covered by different stock options may be subject to different vesting terms.

Term. Under the current 2006 Employee Plan, the maximum term of a stock option is seven years, except that in certain cases (see "Eligibility" above) the maximum term is five years.

Termination of Service. Stock options generally terminate three months after termination of a participant's service unless:

- the stock option agreement by its terms specifically provides otherwise,
- termination is due to the participant's disability, in which case the stock option may be exercised (to the extent the stock option was exercisable at the time of the termination of service) at any time within 12 months of termination,
- the participant dies while in service, or the participant dies within a specified period after termination of service, in which case the stock option may be exercised (to the extent the stock option was exercisable at the time of the participant's death) within 12 months of the participant's death by the person or persons to whom the rights to such stock option have passed, or
- the participant is terminated for cause (as defined under the 2006 Employee Plan), in which case the stock option will terminate and cease to be exercisable (whether vested or unvested) at the time of such termination.

The stock option term may be extended in the event that exercise of the stock option following termination of service is prohibited by applicable securities laws. In no event, however, may a stock option be exercised beyond the expiration of its term.

Restrictions on Transfer. A participant generally may not transfer a stock option other than by will, by the laws of descent and distribution, or pursuant to a domestic relations order. During the lifetime of the participant, only the participant may exercise a stock option (except in instances pursuant to a domestic relations order). A participant may also designate a beneficiary who may exercise a stock option following the participant's death.

Terms of Restricted Stock

We may grant restricted stock awards under the 2006 Employee Plan pursuant to restricted stock award agreements adopted by our Board of Directors or a duly authorized committee. Restricted stock awards are shares of our common stock that may be subject to restrictions, such as vesting requirements.

Consideration. Our Board of Directors may grant restricted stock awards in consideration for past or future services rendered to Synopsys or an affiliate, or any other form of legal consideration acceptable to our Board.

Vesting. Shares of stock acquired under a restricted stock award may, but need not, be subject to a repurchase option in favor of Synopsys or forfeiture to Synopsys in accordance with a vesting schedule as determined by our Board of Directors.

Termination of Service. Upon termination of a participant's service, Synopsys may repurchase or otherwise reacquire any forfeited shares of stock that have not vested as of such termination under the terms of the applicable restricted stock award.

Terms of Restricted Stock Units

We may grant restricted stock unit awards under the 2006 Employee Plan pursuant to restricted stock unit award agreements adopted by our Board of Directors or a duly authorized committee. Restricted stock units represent the value of a fixed number of shares of Synopsys common stock on the date of grant.

Consideration. Our Board of Directors may grant restricted stock units in consideration for past or future services rendered to Synopsys or an affiliate, or any other form of legal consideration acceptable to our Board.

Vesting. Restricted stock units vest at the rate or on the terms specified in the restricted stock unit award agreement as determined by our Board of Directors.

Settlement. Restricted stock units may be settled by the delivery of shares of Synopsys common stock, cash, or any combination as determined by our Board of Directors. At the time of grant, our Board of Directors may impose additional restrictions or conditions that delay the delivery of stock or cash subject to the restricted stock unit award after vesting.

Termination of Service. Except as otherwise provided in the applicable award agreement, restricted stock units that have not vested will be forfeited upon the participant's termination of service.

Terms of Stock Appreciation Rights

We may grant stock appreciation rights under the 2006 Employee Plan pursuant to stock appreciation rights agreements adopted by our Board of Directors or a duly authorized committee. A stock appreciation right is a right to receive the excess value over the strike price of a fixed number of shares. Individual stock appreciation right agreements may be more restrictive as to any or all of the permissible terms described below. Each stock appreciation right is denominated in shares of common stock equivalents but may be settled in cash.

Term. The maximum term of stock appreciation rights is seven years.

Strike Price. The strike price of stock appreciation rights may not be less than 100% of the fair market value of the common stock equivalents subject to the stock appreciation rights on the date of grant.

Exercise. Upon exercise of a stock appreciation right, Synopsys will pay the participant an amount equal to the excess of the aggregate fair market value on the date of exercise of a number of common stock equivalents with respect to which the participant is exercising the stock appreciation right, over the strike price determined by our Board of Directors on the date of grant. The appreciation distribution upon exercise of a stock appreciation right may be paid in cash, shares of our common stock, or any other form of consideration determined by our Board of Directors.

Vesting. Stock appreciation rights vest and become exercisable at the rate specified in the stock appreciation right agreement as determined by our Board of Directors.

Termination of Service. Stock appreciation rights generally terminate three months after termination of a participant's service unless:

- the stock appreciation rights agreement by its terms specifically provides otherwise,
- termination is due to the participant's disability, in which case the stock appreciation right may be exercised (to the extent vested at the time of the termination of service) at any time within 12 months of termination,
- the participant dies while in service, or within a specified period after termination of service, in which case the stock appreciation right may be exercised (to the extent vested at the time of the participant's death) within 12 months of the participant's death by the person or persons to whom the rights to such stock appreciation right have passed, or
- the participant is terminated for cause (as defined under the 2006 Employee Plan), in which case the stock appreciation right will terminate and cease to be exercisable (whether vested or unvested) at the time of such termination.

The term of a stock appreciation right may be extended in the event that exercise following termination of service is prohibited by applicable securities laws. In no event may a stock appreciation right be exercised beyond the expiration of its term.

Terms of Other Stock Awards

Our Board of Directors may grant other equity awards based in whole or in part by reference to the value of our common stock. Subject to the provisions of the 2006 Employee Plan, our Board has the authority to determine the persons to whom and the dates on which such other equity awards will be granted, the number of shares of common stock (or cash equivalents) to be subject to each award, and other terms and conditions of such awards. Such awards may be granted either alone or in addition to other equity awards granted under the 2006 Employee Plan. These awards may not have a term in excess of seven years from the date of grant.

Terms of Performance Awards

General. Our Board of Directors and Compensation Committee may grant performance equity awards and performance cash awards that vest based on the attainment of performance goals during a designated performance period.

Performance Goals. Our Board of Directors and Compensation Committee has the authority to structure one or more such awards so that stock or cash will be issued or paid pursuant to the award only upon the achievement of certain pre-established performance goals. Future performance-based awards under the 2006 Employee Plan will not be able to qualify for the historical Code Section 162(m) performance-based exception, which was repealed pursuant to tax reform legislation adopted in late 2017. However, the 2006 Employee Plan includes a list of performance goals that may be used (alone or in combination with each other) for performance-based awards, which may consist of any measures of performance selected by our Board of Directors.

Performance goals may be set on a company-wide basis, with respect to one or more business units, divisions, affiliates, or business segments, and in either absolute terms or relative to internally generated business plans, the performance of one or more comparable companies or the performance of one or more relevant indices. Adjustments may be made in the method of calculating the attainment of performance goals as follows: (i) to exclude restructuring and/or other nonrecurring charges (including but not limited to the effect of tax or legal settlements); (ii) to exclude exchange rate effects, as applicable, for non-U.S. dollar denominated net sales and operating earnings; (iii) to exclude the effects of changes to generally accepted accounting standards required by the Financial Accounting Standards Board; (iv) to exclude the effects of any statutory adjustments to corporate tax rates; (v) to exclude stock-based compensation expense determined under generally accepted accounting principles; (vi) to exclude any other unusual or infrequently occurring item (including but not limited to various income tax impacts prompted by tax reform legislation adopted in late 2017, including the income tax related to transition tax, the tax rate change, and tax restructuring; and the tax impact of repatriation); (vii) to respond to, or in anticipation of, any unusual or extraordinary corporate item, transaction, event or development; (viii) to respond to, or in anticipation of, changes in applicable laws, regulations, accounting principles, or business conditions; (ix) to exclude the dilutive effects of acquisitions or joint ventures; (x) to assume that any business divested by Synopsys achieved performance objectives at targeted levels during the balance of a performance period following such divestiture; (xi) to exclude the effect of any change in the outstanding shares of our common stock by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common shareholders other than regular cash dividends; (xii) to reflect a corporate transaction, such as a merger, consolidation, separation (including a spinoff or other distribution of stock or property by a corporation), or reorganization (whether or not such reorganization comes within the definition of such term in Section 368 of the Code); (xiii) to reflect any partial or complete corporate liquidation; (xiv) to exclude the effect of in-process research and development expenses; and (xv) to exclude the income tax effect of non-GAAP pre-tax adjustments from the provision for income taxes.

Annual Limitation. The maximum benefit to be granted to a participant in any calendar year attributable to performance equity awards may not exceed 1,000,000 shares of common stock. The maximum benefit to be granted to a participant in any calendar year attributable to performance cash awards granted pursuant to the amended 2006 Employee Plan may not exceed \$4,000,000.

Changes to Capital Structure

In the event any change is made to the outstanding shares of our common stock without receipt of consideration (whether through a stock split, reverse stock split or other changes in the capital structure), appropriate adjustments will be made to the class of securities issuable under the 2006 Employee Plan, the maximum number of securities issuable under the 2006 Employee Plan, the incentive stock option limitation, the maximum award that one person may be granted in a calendar year under the 2006 Employee Plan, and the number, class and price per share under outstanding equity awards under the 2006 Employee Plan.

Corporate Transactions; Changes in Control

Unless otherwise provided in a written agreement between Synopsys or an affiliate and a participant, or unless otherwise expressly provided by our Board of Directors or Compensation Committee at the time of grant of an equity award, in the event of significant corporate transactions, outstanding equity awards under the 2006 Employee Plan may be assumed, continued or substituted by any surviving or acquiring entity (or its parent company). If the surviving or acquiring entity (or its parent company) elects not to assume, continue or substitute such equity awards, then:

- with respect to any such equity awards that are held by individuals then performing services for Synopsys or its affiliates, the vesting and exercisability provisions of such equity awards will be accelerated in full and such awards will be terminated if not exercised prior to the effective date of the corporate transaction and any reacquisition or repurchase rights will lapse (contingent upon the effectiveness of the corporate transaction),
- all other outstanding equity awards will be terminated if not exercised prior to the effective date of the corporate transaction, except that certain equity awards, such as restricted stock awards, may have their reacquisition or repurchase rights assigned to the surviving or acquiring entity (or its parent company) in the corporate transaction, though if such reacquisition or repurchase rights are not assigned, then such equity awards will become fully vested, and
- no vested restricted stock unit award will terminate without being settled by delivery of shares of common stock, their cash equivalent or in any other form of consideration, as determined by the Board of Directors, prior to the effectiveness of the corporate transaction.

A significant corporate transaction will be deemed to occur in the event of:

- a sale of all or substantially all of the consolidated assets of Synopsys and its subsidiaries,
- a sale of at least 90% of the outstanding securities of Synopsys,
- a merger, consolidation or similar transaction in which Synopsys is not the surviving corporation, or
- a merger, consolidation or similar transaction in which Synopsys is the surviving corporation, but shares of Synopsys outstanding common stock are converted into other property by virtue of the corporate transaction.

The 2006 Employee Plan provides, at the discretion of our Board of Directors, that the holder of an outstanding equity award that would otherwise terminate if not exercised prior to the corporate transaction may surrender such equity award in exchange for a payment equal to the excess of the value of the property that the holder would have received upon exercise of the equity award immediately prior to the corporate transaction, over the exercise price otherwise payable in connection with the equity award, which excess amount may be fully vested at the time of the corporate transaction or may be required to vest after the time of the corporate transaction substantially in accordance with the schedule in effect immediately prior to the corporate transaction.

An equity award may be subject to additional acceleration of vesting and exercisability upon or after a change in control as may be provided in the award agreement for such equity award, or as may be provided in any other written agreement between Synopsys or any affiliate and the participant. An equity award may vest as to all or any portion of the shares subject to the equity award (a) immediately upon the occurrence of a change in control, whether or not such equity award is assumed, continued, or substituted by a surviving or acquiring entity in the change in control, or (b) in the event a participant's service is terminated, actually or constructively, within a designated period prior to, at, or following the

occurrence of a change in control. In the absence of a determination by the plan administrator, no such acceleration will occur.

The acceleration of an equity award in the event of an acquisition or similar corporate event may be viewed as an anti-takeover provision, which may have the effect of discouraging a proposal to acquire or otherwise obtain control of Synopsys.

Duration, Termination and Amendment

Our Board of Directors may suspend or terminate the 2006 Employee Plan without stockholder approval or ratification at any time. The 2006 Employee Plan will expire on April 1, 2026, unless terminated sooner by our Board. Our Board may amend or modify the 2006 Employee Plan at any time, subject to any required stockholder approval. To the extent required by applicable law or regulation, stockholder approval will be required for any amendment that:

- materially increases the number of shares available for issuance under the 2006 Employee Plan,
- materially expands the class of individuals eligible to receive awards under the 2006 Employee Plan,
- materially increases the benefits accruing to the participants under the 2006 Employee Plan or materially reduces the price at which shares of common stock may be issued or purchased under the 2006 Employee Plan,
- materially extends the term of the 2006 Employee Plan, or
- expands the types of awards available for issuance under the 2006 Employee Plan.

Our Board of Directors also may submit to stockholders any other amendment to the 2006 Employee Plan.

U.S. Federal Income Tax Information

The following is a summary of the principal United States federal income taxation consequences to participants and Synopsys with respect to participation in the 2006 Employee Plan. This summary is not intended to be exhaustive, and does not discuss the income tax laws of any city, state or foreign jurisdiction in which a participant may reside.

Incentive Stock Options. Incentive stock options granted under the 2006 Employee Plan are intended to qualify for the favorable federal income tax treatment accorded “incentive stock options” under the Code. There generally are no federal ordinary income tax consequences to the participant or Synopsys by reason of the grant or exercise of an incentive stock option. However, the exercise of an incentive stock option may increase the participant’s alternative minimum tax liability, if any.

The excess, if any, of the fair market value of the incentive stock option shares on the date of exercise over the exercise price is an adjustment to income for purposes of the alternative minimum tax. Alternative minimum taxable income is determined by adjusting regular taxable income for certain items, increasing that income by certain tax preference items and reducing this amount by the applicable exemption amount.

If a participant holds stock acquired through exercise of an incentive stock option for more than two years from the date on which the stock option was granted and more than one year after the date the stock option was exercised for those shares, any gain or loss on a disposition of those shares (referred to in this Proxy Statement as a qualifying disposition) will be a long-term capital gain or loss.

Generally, if the participant disposes of the stock before the expiration of either of those holding periods (referred to in this Proxy Statement as a disqualifying disposition), then at the time of disposition the participant will realize taxable ordinary income equal to the lesser of (a) the excess of the stock’s fair market value on the date of exercise over the exercise price, or (b) the participant’s actual gain, if any, on the purchase and sale. The participant’s additional gain or any loss upon the disqualifying disposition will be a capital gain or loss, which will be long-term or short-term depending on whether the stock was held for more than one year after exercise.

Non-Statutory Stock Options. No taxable income is generally recognized by a participant upon the grant or vesting of a non-statutory stock option under the 2006 Employee Plan. Upon exercise of a non-

statutory stock option, the participant will recognize ordinary income equal to the excess, if any, of the fair market value of the purchased shares on the exercise date over the exercise price paid for those shares.

Upon disposition of the common stock, the participant will recognize a capital gain or loss equal to the difference between the selling price and the sum of the amount paid for such common stock plus any amount recognized as ordinary income upon acquisition of the stock. Such gain or loss will be long-term or short-term depending on whether the common stock was held for more than one year.

Stock appreciation rights are generally taxed in a manner similar to non-statutory stock options.

Restricted Stock Awards. Upon the grant of a restricted stock award which is unvested and subject to reacquisition by Synopsys in the event of the participant's termination of service prior to vesting in those shares, the participant will not recognize any taxable income at the time of issuance, but will have to report as ordinary income, as and when our reacquisition right lapses, an amount equal to the fair market value of the shares on the dates the reacquisition right lapses. The participant may, however, elect under Section 83(b) of the Code to include as ordinary income in the year of issuance an amount equal to the fair market value of the shares on the date of issuance. If the Section 83(b) election is made, the participant will not recognize any additional income as and when the reacquisition right lapses.

Upon disposition of the common stock acquired upon the receipt of a restricted stock award, the participant will recognize a capital gain or loss equal to the difference between the selling price and the sum of the amount paid for such common stock plus any amount previously recognized as ordinary income in respect of such common stock. Such gain or loss will be long-term or short-term depending on whether the common stock was held for more than one year.

Restricted Stock Unit Awards. No taxable income is generally recognized upon receipt of a restricted stock unit award under the 2006 Employee Plan. In general, the participant will recognize ordinary income in the year in which the shares to be issued in respect of that unit are issued in an amount equal to the fair market value of the shares on the issuance date. Amounts taxed as ordinary income from non-statutory stock options, restricted stock awards and restricted stock unit awards are subject to income tax withholding and applicable employment taxes.

Tax Consequences to the Company. To the extent the participant recognizes ordinary income in the circumstances described above, we will generally be entitled to a corresponding income tax deduction provided that, among other things, the income meets the test of reasonableness, is an ordinary and necessary business expense, is not an "excess parachute payment" within the meaning of Section 280G of the Code, and is not disallowed by the \$1,000,000 limitation on certain executive compensation under Section 162(m) of the Code. However, we will not be entitled to any income tax deduction upon a qualifying disposition of an incentive stock option.

Compensation qualifying for a performance-based exception as "qualified performance-based compensation" under Section 162(m) of the Code has historically not been subject to the Section 162(m) deduction limit (which, beginning in 2018, applies to certain executive officers and former executive officers). That exception has been repealed, however, effective for taxable years beginning after December 31, 2017, unless transition relief for certain compensation arrangements in place as of November 2, 2017 is available. The 2006 Employee Plan retains legacy provisions that were originally included such that certain awards granted under the plan could potentially qualify for the "qualified performance-based compensation" exception.

Stockholders are not being asked to approve the 2006 Employee Plan (or any of its provisions) for purposes of Section 162(m) of the Code or the "qualified performance-based compensation" exception. Synopsys will not be able to make any future grants under the 2006 Employee Plan that will be intended to qualify for the performance-based exception; thus, while certain references to Section 162(m) of the Code remain in the 2006 Employee Plan, Synopsys does not expect that such Code Section 162(m)-related provisions will be operable for purposes of future grants made under the plan.

Proposal 3 – Advisory Vote to Approve Executive Compensation

As required pursuant to Section 14A of the Securities Exchange Act, we are requesting our stockholders to provide advisory approval of the compensation of our named executive officers as disclosed in the Compensation Discussion and Analysis, the compensation tables, and the narrative discussion set forth on pages 32 to 65 of this Proxy Statement. This non-binding advisory vote is commonly referred to as a “say-on-pay” vote.

Our Board of Directors Recommends that You Vote FOR the Compensation of Our Named Executive Officers as Disclosed in this Proxy Statement

Background

At last year’s annual meeting, we provided our stockholders with the opportunity to cast an advisory vote regarding the compensation of our named executive officers as disclosed in the proxy statement for the 2018 Annual Meeting of Stockholders. At our 2018 Annual Meeting, our stockholders overwhelmingly approved the proposal, with approximately 93% of voted shares in favor of the proposal.

We have held a stockholder say-on-pay vote annually, as elected by our Board of Directors and consistent with a past advisory vote by our stockholders. Accordingly, this year we are again asking our stockholders to vote “For” the compensation of our named executive officers as disclosed in this Proxy Statement. The next say-on-pay vote is expected to occur at our 2020 Annual Meeting of Stockholders.

Our Compensation Committee, which is responsible for designing and administering our executive compensation program, has designed our executive compensation program to provide a competitive and internally equitable compensation and benefits package that reflects company performance, job complexity and the value provided, while also promoting long-term retention, motivation and alignment with the long-term interests of Synopsys’ stockholders. Synopsys has maintained profitability and increased revenue each year since fiscal 2006, and we believe the compensation program for our named executive officers has been instrumental in helping Synopsys achieve strong financial performance over the past few years.

We encourage you to carefully review the “Compensation Discussion and Analysis” beginning on page 32 of this Proxy Statement for additional details on Synopsys’ executive compensation, including Synopsys’ compensation philosophy and objectives, as well as the processes our Compensation Committee used to determine the structure and amounts of the compensation for our named executive officers.

We are asking you to indicate your support for the compensation of our named executive officers 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 named executive officers and the philosophy, policies and practices described in this Proxy Statement. Accordingly, we are asking you to vote, on an advisory basis, “For” the following resolution at the Annual Meeting:

“RESOLVED, that the compensation paid to Synopsys, Inc.’s named executive officers, as disclosed pursuant to the Securities and Exchange Commission’s compensation disclosure rules, including the Compensation Discussion and Analysis, compensation tables and narrative discussion set forth on pages 32 to 65 of this Proxy Statement, is hereby approved.”

This advisory resolution will be approved if the holders of a majority of the shares present in person or represented by proxy and entitled to vote at the Annual Meeting, and voting on this Proposal 3, vote “For” this Proposal 3. Abstentions will not be counted as either votes cast “For” or “Against” this Proposal 3 and have no effect on the vote for this Proposal 3.

While the results of this advisory vote are not binding, the Compensation Committee will consider the outcome of the vote in making future compensation decisions for named executive officers.

Compensation Discussion and Analysis

This Compensation Discussion and Analysis discusses the compensation of our named executive officers (NEOs) for fiscal 2018.

Fiscal 2018 NEOs

Aart J. de Geus	Co-Chief Executive Officer and Chairman of the Board of Directors
Chi-Foon Chan	Co-Chief Executive Officer, President and Member of the Board of Directors
Trac Pham	Chief Financial Officer
Joseph W. Logan	Sales and Corporate Marketing Officer
John F. Runkel, Jr.	General Counsel and Corporate Secretary

We are led by Dr. Aart J. de Geus and Dr. Chi-Foon Chan, our co-Chief Executive Officers. Dr. de Geus is an electronic design automation (EDA) pioneer who co-founded Synopsys over 32 years ago. Dr. de Geus has long been considered one of the world's leading experts on logic synthesis and simulation, and over the years, has been widely recognized for his technical, business and community achievements by leading organizations throughout the world. Dr. Chan has been with Synopsys for over 28 years. Over the years, Dr. Chan pioneered many aspects of Synopsys including the initiation of our intellectual property (IP) business, leading our global expansion efforts in Asia, and more recently, overseeing the growth of our software integrity portfolio.

We believe we continue to benefit from our co-CEO structure. This structure enables both Dr. de Geus and Dr. Chan to speak with the authority of a CEO as they guide our product innovations across various fields and support our relationships with key customers. Both Dr. de Geus and Dr. Chan have extensive knowledge of our products, customers, and industry while providing different strengths. Dr. Chan contributes expertise in the day-to-day operations of our business, while Dr. de Geus leads us in developing and communicating our long-term vision. We rely on the expertise of Dr. de Geus, Dr. Chan and our other NEOs to assist us in growing our business and building stockholder value, with stockholder value steadily increasing since the co-CEO structure was established in fiscal 2013.

Executive Summary

Fiscal 2018 Business Performance Overview

Synopsys delivered an outstanding year in fiscal 2018 - financially, operationally, and strategically. We crossed the \$3 billion revenue mark, with very good growth across all product groups and all geographies. In addition, we reported double-digit growth in non-GAAP earnings per share (EPS) for the second straight year. The excellent financial results highlight a five-year period of technology innovation, market share growth, total available market expansion, and strong financial execution. A few of our business highlights include the following:

- In 2018, we delivered a stream of innovations aimed at enabling the most complex chip and system designs ever, and those products are in the early stages of a multi-year upgrade cycle. One of those innovations is our new Fusion Compiler™ product, the only single product in the market that integrates the market-leading critical elements of design-synthesis, place and route, and signoff. We also launched a new emulation product—the fastest, largest-capacity emulator available today.
- Our semiconductor intellectual property (IP) portfolio delivered another record year, as our broad offering that spans interfaces, memories, analog, and processor IP continues to have solid impact on our customers' designs. For applications such as automotive and artificial intelligence, our high-quality IP has become a staple for many companies.
- Our software integrity product group, which provides solutions that test for security vulnerabilities and quality defects in software code, had another excellent year of growth. In addition, we acquired the leading open-source software testing company in Black Duck Software, Inc. and successfully integrated the company into Synopsys. Identified as a leader in the Gartner Magic

Quadrant for Application Security Testing for the second year in a row, our brand recognition and business continue to expand.

From a financial performance standpoint:

- We reported excellent results, with double-digit revenue and non-GAAP EPS growth. We saw revenue strength across all product groups and geographies, and an approximate \$300 million increase in non-cancellable backlog.
- We invested substantially in critical products across our portfolio, bolstering our technology position for the future.
- We continued to drive long-term shareholder value by balancing our investment priorities while executing \$400 million in share repurchases during fiscal 2018. We have completed \$1.2 billion in share repurchases over the past three years.
- Revenue for fiscal 2018 was \$3.12 billion, an increase of approximately 14.5% over fiscal 2017.
- GAAP net income for fiscal 2018 was approximately \$432.5 million, or \$2.82 per share. Non-GAAP net income for fiscal 2018 was \$599.7 million (versus a fiscal 2018 non-GAAP net income target of \$529.0 million, as described below in “Equity Awards”), or \$3.91 per share.

Fiscal 2018 Executive Compensation Overview

The cornerstone of our compensation philosophy is **pay for performance**. We closely align the compensation paid to our NEOs with achievement of both near- and long-term financial goals. In fiscal 2018, we structured our compensation mix such that approximately 92% of the target compensation of Dr. de Geus and Dr. Chan, our co-CEOs, was performance-based and approximately 83% of the target compensation of our other NEOs, as a group, was performance-based.

Our NEOs receive a salary, a cash incentive opportunity under our Executive Incentive Plan (EIP), and equity awards, each determined by the Compensation Committee. The equity awards consist of stock options and performance-based restricted stock units (PRSUs) typically split 50/50. The performance goals for our EIP and PRSUs support our primary financial objectives of achieving profitable revenue growth and creating a stable and predictable future revenue stream. Our EIP requires a minimum average achievement of 90% of our goals before any payment can be earned, a threshold that is above common industry practice.

After reviewing our strong fiscal 2017 performance, and considering peer compensation data and the company’s compensation budget, in December 2017, the Compensation Committee adjusted the target total direct compensation for our NEOs in fiscal 2018 as follows:

NEO	Change in Target Compensation from Fiscal 2017 to 2018	Commentary
Aart J. de Geus and Chi-Foon Chan Co-Chief Executive Officers	14.6%	The Compensation Committee increased the target dollar value of our co-CEOs’ annual equity grant to recognize their contributions in significantly growing the company from both a financial and operational standpoint.
Trac Pham Chief Financial Officer	22.8%	The Compensation Committee increased the target dollar value of Mr. Pham’s annual equity grant to reflect his expanded scope of responsibilities in light of our Chief Administrative Officer’s retirement last year, as well as improve the competitiveness of his overall compensation as compared to our peers.
Joseph W. Logan Sales and Corporate Marketing Officer	—%	The Compensation Committee evaluated Mr. Logan’s target compensation and determined his existing target level was consistent with our pay philosophy.
John F. Runkel, Jr. General Counsel and Corporate Secretary	6.5%	The Compensation Committee increased Mr. Runkel’s salary and the target dollar value of his annual equity grant to improve the competitiveness of his overall compensation as compared to our peers.

We performed well against our fiscal 2018 goals. As further described below:

- The Average Achievement of our Fiscal 2018 Corporate Financial Goals was 104.8%, thereby yielding a Corporate Financial Payout Factor of 119.3% under our EIP.
- We achieved 111.2% of our Fiscal 2020 Revenue Backlog Goal. Based on our EIP Payment Formula, our EIP funding increased to 150.0% of target levels.
- We achieved 113.4% of our Fiscal 2018 Non-GAAP Net Income Performance Goal, and accordingly, our NEOs' fiscal 2018 PRSUs are eligible to vest based on continued service.

Compensation Practices and Governance Policies

In designing our executive compensation program, our goal is a competitive and internally equitable program that reflects company performance, job complexity, and the value provided by our executives, while also promoting long-term retention and motivation. We have increased our revenue, while remaining profitable, over the past decade. We believe our compensation practices and governance policies have been important in helping us achieve this consistent long-term financial performance, and we must continue to cultivate executive talent to lead our business and engage our global workforce to remain successful.

Our Compensation Practices

✓ Pay for Performance. Performance-based pay represents a significant portion of our NEO's target total direct compensation. In the beginning of fiscal 2018, the Compensation Committee set fixed compensation at 8% of target total direct compensation for our co-CEOs and, on average, 17% for our other NEOs as a group.	✗ No All-or-Nothing Approach. Our cash and equity incentive awards contain a range of performance levels and payouts to discourage risky actions to meet an all-or-nothing performance goal.
✓ Balanced Mix of Performance Goals. The performance goals for our cash and equity incentive awards use a variety of performance metrics and focus on both near-term and long-term goals.	✗ No Excessive Risks. Our cash-based Executive Incentive Plan encourages our NEOs to achieve current fiscal year revenue and operating margin goals as well as revenue backlog goals for multiple years in the future, which promote a predictable long-term revenue stream and help minimize incentives for risky short-term business practices.
✓ Competitive Pay. In setting fiscal 2018 total direct compensation for our NEOs other than the co-CEOs, the Compensation Committee reviewed peer data, with an emphasis on the 25th to the 75th percentile of our peer group as a reference to avoid focusing on extreme outliers. The Committee also takes into consideration other factors such as an NEO's level of experience, contributions, performance, retention value of unvested awards, and our compensation budget.	✗ No Above-Market CEO Pay. The Compensation Committee set fiscal 2018 target direct compensation for each of our co-CEOs at approximately the 25th percentile, reflecting our co-CEOs' emphasis on internal pay equity and our Compensation Committee's sensitivity to budgetary concerns raised by a co-CEO leadership structure.
✓ Double Trigger Change of Control Benefits. Our NEO change of control agreements are "double trigger." NEOs do not receive a payment simply due to a change of control and are not eligible for severance benefits if they continue to be employed in a similar role after the change of control.	✗ No Excessive Change of Control Payments. The "double trigger" change of control salary continuation and cash incentive award payments potentially owed to our NEOs do not exceed two times their annual target cash compensation.
✓ Maximum Payout Caps. The Compensation Committee evaluates our NEOs' performance to determine the level of awards that are earned under our EIP and 2006 Employee Plan. Both plans maintain maximum payout caps to avoid excessive payments to our NEOs.	✗ No Excise Tax Gross Ups. We do not provide for "golden parachute" excise tax gross ups.

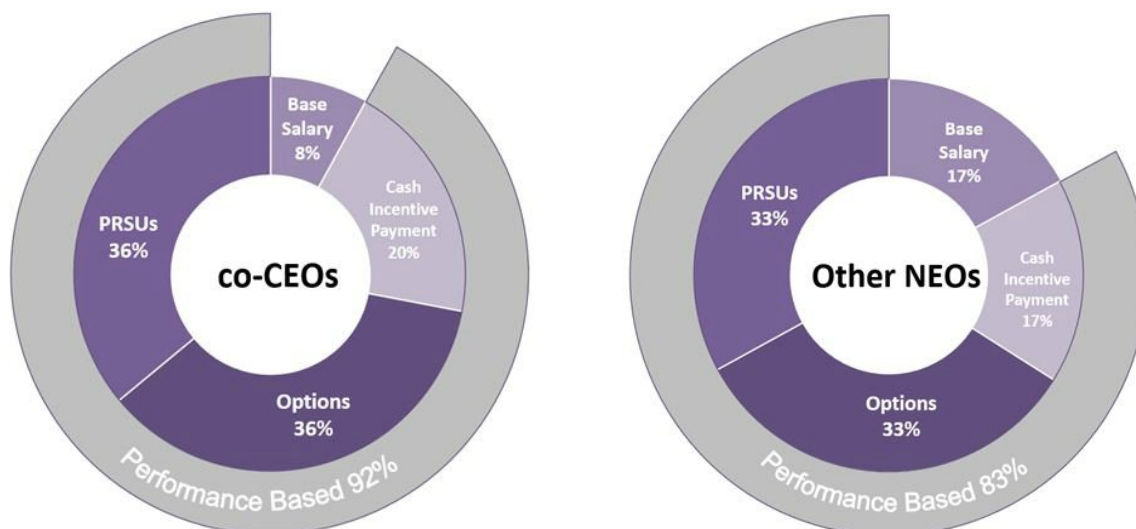
Our Compensation Practices

✓ Clawback Policy. We maintain a clawback policy for the recovery of performance-based compensation (both cash and equity) in the event of a substantial financial restatement.	× No Excessive Perks. We generally do not provide any executive-specific perquisites to our NEOs. We do not provide a matching contribution or preferential interest rates in our deferred compensation plans.
✓ Robust Stock Ownership Guidelines. All of our NEOs are in compliance with our Stock Ownership Guidelines as of the end of fiscal year 2018: Dr. de Geus held 540,728 shares of our common stock, valued at over 92 times his salary and Dr. Chan held 202,244 shares, valued at over 34 times his salary.	× No Hedging or Pledging. Our NEOs are prohibited from engaging in hedging transactions in our stock, holding our stock in a margin account, or pledging our stock as collateral for a loan.
✓ Independent Compensation Committee. Our Compensation Committee is composed solely of independent directors. The Compensation Committee regularly meets in executive sessions without management present.	× No Option Repricing. Our 2006 Employee Equity Incentive Plan forbids the repricing of equity awards without stockholder approval and contains other features designed to protect stockholder interests.
✓ Independent Compensation Consultant. The Compensation Committee directly retains a compensation consultant the Committee has determined to be independent, using the factors set out in applicable SEC and Nasdaq rules.	
✓ Advisory Say-on-Pay Vote. Our Board of Directors elected to hold an annual advisory say-on-pay vote, and our Compensation Committee considers the outcome of our favorable vote in making compensation decisions.	
✓ Comprehensive Review of Executive Compensation. In addition to considering the outcome of the annual advisory say-on-pay vote, our Compensation Committee also reviews tally sheets of executive compensation, which provide a holistic view of NEO compensation.	
✓ Equity Burn Rate. We continue to closely manage our equity burn rate, limiting gross share usage to 1.8% in fiscal 2018.	

Fiscal 2018 NEO Compensation Details

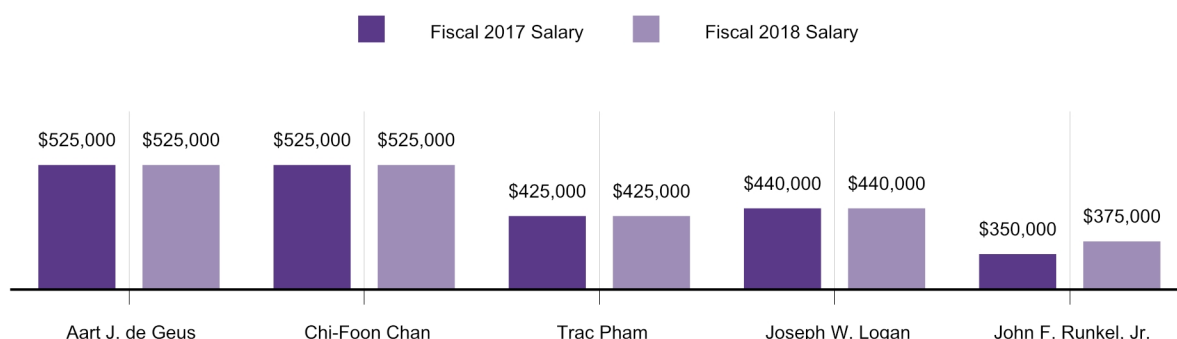
Our three core elements of NEO direct compensation are salary, an annual cash incentive opportunity and equity awards. Our NEOs are also compensated through our employee health and welfare benefit plans, employee-funded defined contribution deferred compensation plan, and executive change in control and severance benefit plan.

The large majority of each NEO's target total direct compensation is "performance-based"—that is, contingent upon the overall performance of our business or our stock price. The Compensation Committee uses a balanced mix of performance metrics with varying near- and long-term impact in our performance-based compensation. The graphic below reflects the general allocation of the three core elements of NEO target total direct compensation for fiscal 2018 as determined by our Compensation Committee in December 2017.



Salary

Salaries compensate our NEOs for expected levels of day-to-day performance. Our Compensation Committee believes that salaries should be determined by each NEO's role and responsibilities, our financial projections, peer data, our budget for the coming year, historical salary levels, and the resulting total target compensation that can be earned given the individual's base salary and related target incentive opportunity.



In fiscal 2018, Mr. Runkel's salary was increased by \$25,000, or approximately 7.1% over fiscal 2017, to \$375,000. The modest salary increase improved the competitiveness of Mr. Runkel's base salary level as compared to our peers. No changes were made to our other NEOs' base salary levels.

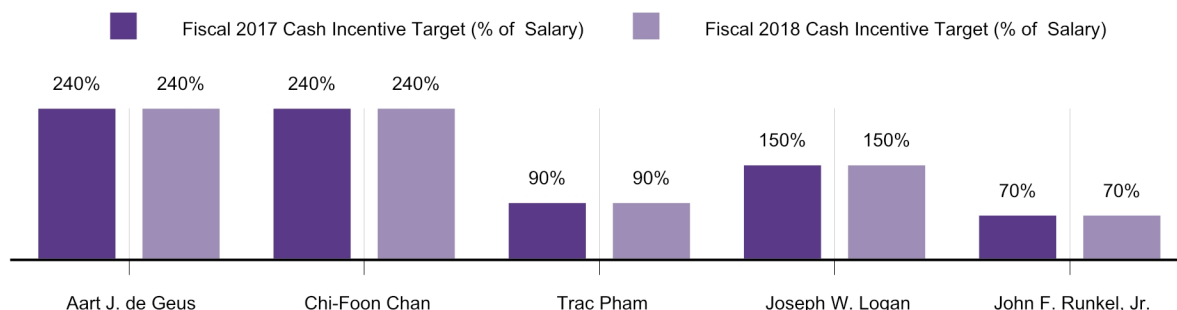
Cash Incentive Payment

We use annual cash incentive compensation to align NEO performance with near-term financial objectives and future revenue goals, which reward contributions that have a multi-year impact. These cash incentive payments can be earned by our NEOs only if we achieve a significant level of our financial performance goals, which advance our long-term strategic plans and, ultimately, shareholder value, over time. Our Compensation Committee grants cash incentive compensation opportunities under our Executive Incentive Plan (EIP), which was last reviewed by the Compensation Committee in January 2019.

Executive Incentive Plan. For fiscal 2018, the Compensation Committee approved a threshold level of performance that must be achieved (e.g., a **funding goal**), **cash incentive targets**, **performance goals** and a **payout matrix** that determines how much of the target may be paid at each level of achievement of our performance goals. After the end of the fiscal year, the Compensation Committee applies a pre-

determined formula provided by the EIP to calculate the amount of potential cash incentive payments, but it retains discretion to adjust those payments produced by the formula. In no event can an actual cash incentive payment exceed 200% of the NEO's cash incentive target.

Cash Incentive Target. A cash incentive target is the amount of cash incentive compensation that an NEO could earn if we achieve our performance goals. Targets are expressed as a percentage of an NEO's salary. In reviewing targets, our Compensation Committee takes into consideration each NEO's role and responsibilities, our financial projections, the budget for the coming year, peer data, historical compensation levels and the resulting total target compensation that can be earned given the individual's base salary and related target incentive opportunity.



The cash incentive target of each of our NEOs did not change in fiscal 2018, as the Compensation Committee determined that the existing levels were consistent with our pay philosophy.

Performance Goals. The EIP requires our NEOs to achieve a high level of performance each year for any payments to be earned under the plan. On an annual basis, our Compensation Committee sets a funding goal for the EIP as well as performance goals based on revenue, operating margin, and revenue backlog. As an initial threshold, we must achieve our funding goal in order for any amounts to be earned under the EIP. If we fail to achieve our funding goal, no cash incentive payments will be earned under the EIP. Assuming the funding goal is achieved, we must still achieve at least a 90% average performance level for our **Corporate Financial Goals**, before any cash incentive payment may be earned. In addition, the Compensation Committee sets a further revenue backlog goal called a **Revenue Predictability Goal** that, if fully achieved, can increase the funding in the EIP through a multiplier.

The EIP uses (1) current fiscal year revenue, (2) current fiscal year non-GAAP operating margin, and (3) future fiscal years' revenue backlog to focus our NEOs on revenue growth and cost control for the current fiscal year and future revenue and revenue predictability. We use non-GAAP operating margin as a metric for both our funding goal and as a component of our Corporate Financial Goals because of its important connection to our overall profitability in the current fiscal year. We use current fiscal year revenue as a metric for our Corporate Financial Goals to reward efforts to expand our business. We use revenue backlog based on two subsequent fiscal years of revenue backlog to encourage our NEOs to address future revenue and revenue predictability, rewarding contributions that have a multi-year impact. We believe the exclusive use of corporate performance metrics, rather than a mix of corporate and individual metrics, fosters teamwork among our NEOs and reflects the importance of company-wide performance to stockholder value. Our Compensation Committee believes the consistent application of this blend of performance measures permits our NEOs to focus on sustained performance rather than short-term accomplishments and has contributed to our consistent revenue growth and profitability.

The Compensation Committee sets the numeric goals for each performance metric based on the operating plan approved by our Board of Directors.

Fiscal 2018 Funding Goal, Corporate Financial Goals, Revenue Predictability Goal and Goal Achievement

Fiscal 2018 Funding Goal (initial threshold)		Fiscal 2018 Target Achieved		
70% of Fiscal 2018 non-GAAP operating margin(1)		Yes		
Corporate Financial Goals	Performance Weight	Fiscal 2018 Target	Fiscal 2018 Actual	Fiscal 2018 % Achieved
Fiscal 2018 revenue	33.33%	\$ 2.910 billion	\$ 3.121 billion	107.3%
Fiscal 2018 non-GAAP operating margin(1)	33.33%	23.2%	22.1%	95.2%
Fiscal 2019 revenue backlog(2)	33.34%	\$ 2.073 billion	\$ 2.322 billion	112.0%
Average Achievement				104.8%
Revenue Predictability Goal		Fiscal 2018 Target		Fiscal 2018 % Achieved
Fiscal 2020 revenue backlog(2)		(3)		111.2%

- (1) Non-GAAP operating margin is GAAP operating margin adjusted to exclude the amortization of acquired intangible assets, the impact of stock compensation, acquisition-related costs, restructuring charges, the effects of certain settlements, final judgments and loss contingencies related to legal proceedings, the various income tax impacts prompted by tax reform legislation adopted in late 2017, including the income tax related to transition tax, the tax rate change, and tax restructuring, the tax impact of repatriation, and the income tax effect of non-GAAP pre-tax adjustments.
- (2) Revenue backlog for a particular year is the portion of committed orders not yet recognized as revenue but that we expect to be recognized in that particular year, measured as of the end of the current fiscal year.
- (3) We consider our second-year revenue backlog target to be confidential, and the disclosure of this target would cause us competitive harm. In general, the Compensation Committee sets revenue backlog targets from year to year that it believes to be challenging but attainable with considerable effort by our NEOs and employees, and in the absence of significant deterioration in macroeconomic or broader industry conditions.

We achieved strong financial results in fiscal 2018, with an average achievement of our three Corporate Financial Goals of 104.8%. We also performed well against our Revenue Predictability Goal, achieving 111.2% of our target, which resulted in the application of a multiplier to potential NEO cash incentive payments, as described below.

Corporate Financial Goals Payout Matrix. Each year, our Compensation Committee approves a payout matrix that determines, within boundaries established by the EIP, what percentage of cash incentive targets can be earned at each level of achievement of our Corporate Financial Goals. The EIP requires a minimum average performance achievement of 90% for our Corporate Financial Goals before our NEOs can earn any cash incentive payment. At this level of achievement under the EIP, the payout matrix provides funding of 67.5% of target payment for 90% average performance achievement.

The EIP is structured in this way to provide a limited payment opportunity when performance goals are narrowly missed. We believe this limits our exposure to excessive risk-taking that can arise with “all or nothing” performance conditions. We believe this minimum 90% average achievement level holds our NEOs to a higher level of performance than peer practice. Our EIP also has a higher performance threshold than our broad-based employee incentive compensation plans to reinforce accountability at the leadership level.

Overview of Fiscal 2018 Corporate Financial Goal Payout Matrix

Percentage of Average Achievement of Corporate Financial Goals	Corporate Financial Payout Factor(1)
≥125%	150%
105%	120.2%
100%	100%
90%	67.5%
<90%	—%

- (1) We round our average achievement to the nearest quarter percent and use linear interpolation to calculate the exact payout factor for achievement levels that fall in between levels specified in the matrix. Since we achieved our Corporate Financial Goals at an average of 104.8%, the Corporate Financial Payout Factor is 119.3% for fiscal 2018.

Revenue Predictability Goal Payout Matrix. Each year, our Compensation Committee also approves a matrix that determines the Revenue Predictability Payout Factor that will be applied at each level of achievement of the Revenue Predictability Goal. For fiscal 2018, achievement of 100% or less of the Revenue Predictability Goal would result in no increase to the payout determined by the other metrics established for the cash incentive award. Achievement above that level, however, could result in a Revenue Predictability Payout Factor of up to 150%.

The Revenue Predictability Factor acts only as a “multiplier” for the Corporate Financial Payout Factor and, regardless of the level of achievement of the Revenue Predictability Goal, no payment could be made under the EIP for fiscal 2018 if the minimum 90% average achievement level was not met under the Corporate Financial Goals.

Overview of Fiscal 2018 Revenue Predictability Goal Payout Matrix

Percentage of Average Achievement of Revenue Predictability Goal	Revenue Predictability Payout Factor(1)
≥125%	150%
111%	150%
105%	125%
100%	100%
≤90%	100%

- (1) We round our average achievement to the nearest quarter percent and use linear interpolation to calculate the exact payout factor for achievement levels that fall between 100% to 110%. Since we achieved 111.2% of our Revenue Predictability Goal, the Revenue Predictability Payout Factor is 150% for fiscal 2018.

EIP Payment Formula. After the end of our fiscal year, our Compensation Committee certifies whether the funding goal and performance goals were met and uses the following formula from the EIP to calculate potential cash incentive payments:

Potential Cash Incentive Payment	=	Cash Incentive Target	×	Corporate Financial Payout Factor	×	Revenue Predictability Payout Factor (if applicable)	×	Corporate Financial Goals Multiplier (if applicable)
Factor	How It Works			Objective		Levels for Fiscal 2018		
Corporate Financial Payout Factor	We calculate the average achievement of our three Corporate Financial Goals and match it with the corresponding Corporate Financial Payout Factor in our Payout Matrix (see above).			Each of the three Corporate Financial Goals is equally weighted to emphasize not only current fiscal year financial goals but also future revenue.		119.3% - due to average goal achievement of 104.8%.		
Revenue Predictability Payout Factor (if applicable)	If we achieve more than 100% of our Revenue Predictability Goal, the EIP increases potential cash incentive payments based on a Revenue Predictability Payout Factor determined by the level of overachievement. Under-performance does not decrease potential payments. For fiscal 2018, the potential Revenue Predictability Payout Factor ranged from 100.0% to 150.0%.			Our Compensation Committee believes this factor encourages our NEOs to achieve a sustained and predictable future revenue stream.		150.0% - due to achieving 111.2% of our Revenue Predictability Goal.		
CFG Multiplier (if applicable)	If the average achievement of our Corporate Financial Goals exceeds 100.0%, a multiplier is applied to potential cash incentive payments. For fiscal 2018, the potential CFG Multiplier was 1.10.			Our Compensation Committee believes the CFG Multiplier encourages our NEOs to maximize their efforts to achieve outstanding results for our stockholders.		Applicable – due to average goal achievement of 104.8%, which exceeds 100.0%.		
Cap: Every cash incentive payment is capped at 200% of the NEO's target by the EIP.								

The EIP Payment Formula above will not be applicable, and our NEOs will not earn any cash incentive payments under the EIP, if the funding goal is not achieved for the fiscal year.

Actual Fiscal 2018 Cash Incentive Payments. Actual cash incentive payments are only earned after our Compensation Committee has reviewed the potential cash incentive payment calculations under the objective EIP payment formula and considered other relevant information not incorporated into the formula, such as the impact of major acquisitions during the year, individual performance, and affordability. The Compensation Committee is empowered to adjust potential cash incentive payments, regardless of whether any multiplier has been earned. In no event can an actual cash incentive payment exceed 200% of the NEO's cash incentive target.

Our Compensation Committee convened in December 2018 to discuss the fiscal 2018 performance of each of our NEOs, review potential cash incentive payments, and determine the actual incentive payments. Based on our achievement of EIP performance goals, the calculation of cash incentive payments using the EIP's payment formula yielded awards of 196.8% of our NEOs' targets, which is based on:

196.8% Potential Cash Incentive Payment	=	Cash Incentive Target	×	119.3% Corporate Financial Payout Factor	×	150.0% Revenue Predictability Payout Factor	×	1.10 CFG Multiplier
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After considering a number of factors, including internal cost considerations, the Compensation Committee reduced the total EIP awards by approximately 5.8% in the aggregate to yield awards of 191.0% of our NEOs' targets as a group. Notwithstanding the foregoing, Mr. Logan's actual cash incentive payment was paid at 200.0% of his cash incentive target to recognize his key contributions to the company in an increasingly competitive sales environment.

NEO	Target Cash Incentive Payment	Actual Cash Incentive Payment
Aart J. de Geus	\$ 1,260,000	\$ 2,394,000
Chi-Foon Chan	1,260,000	2,394,000
Trac Pham	382,500	726,800
Joseph W. Logan	660,000	1,320,000
John F. Runkel, Jr.	262,500	472,500

Equity Awards

We believe that equity awards align the interests of our NEOs with the long-term interests of our stockholders by rewarding long-term value creation measured by our stock price and by providing retention incentives through multi-year vesting periods.

Our Compensation Committee generally grants the following equity awards to our NEOs under our 2006 Employee Plan:

- **Performance-based restricted stock units (PRSUs)**, which are eligible to vest only upon the achievement of pre-established performance criteria and are subject to time-based vesting in three equal annual installments thereafter. Following achievement of the performance criteria, PRSUs increase or decrease in value directly with our stock price, further aligning NEO and stockholder interests.
- **Stock options** with time-based vesting. Stock options encourage long-term performance as they are only valuable if our stock price increases over time, as the awards vest. Accordingly, the Compensation Committee considers stock options, as well as PRSUs, to be performance-based compensation.

The size of equity awards granted to each NEO is based on an estimated target dollar value. The Compensation Committee considers each NEO's role and responsibilities, historical compensation levels, the impact of award size on our burn rate, and peer data in determining awards. The Compensation Committee does not have a specific formula that weights these factors. Our equity budget for the coming year is also a critical factor, as the Compensation Committee is mindful of potential stockholder dilution and internal pay equity between our NEOs and employees in general when approving grants.

Fiscal 2018 Equity Grants

NEO	Stock Options(1)	PRSU Shares(2)	Grant Date Fair Value of Equity Awards
Aart J. de Geus	120,839	24,859	\$ 4,499,986
Chi-Foon Chan	120,839	24,859	4,499,986
Trac Pham	57,734	11,877	2,149,983
Joseph W. Logan	53,706	11,049	2,000,040
John F. Runkel, Jr.	21,483	4,419	799,973

- (1) Stock options vest as to 25% of the shares subject to the option grant on the first anniversary of the grant date and as to 3/48ths of the shares subject to the option grant quarterly thereafter.
- (2) As discussed further under "PRSUs Terms" below, these PRSUs were subject to a non-GAAP net income performance goal of \$529.0 million for fiscal 2018.

Co-CEOs. The Compensation Committee approved an estimated target dollar value of \$4.50 million for the equity grants to each of our co-CEOs, an increase of approximately 21.6% from fiscal 2017, to recognize their significant contributions in growing the company despite industry and customer consolidation, and to help improve the competitiveness of our co-CEOs' target compensation. Furthermore, this continues the trend of keeping our co-CEOs' salary low relative to our peers and maintaining a higher equity award target to award attainment of performance goals. The target dollar value was converted into a number of shares based on estimated conditions on the grant date, as

described in “Equity Element Allocation” below. The grant date fair value reported in the subsection titled Summary Compensation Table within the Executive Compensation Tables section below reflects actual conditions on the grant date.

Other NEOs. The Compensation Committee approved an estimated target dollar value of \$2.15 million for the equity grants to Mr. Pham, an increase of approximately 34.4% from fiscal 2017, to improve the competitiveness of his target compensation and to further enhance the overall retention features of his total compensation package. The Compensation Committee approved an estimated target dollar value of \$800,000 for the equity grants to Mr. Runkel, an increase of approximately 6.0% from fiscal 2017, to improve the competitiveness of his target compensation.

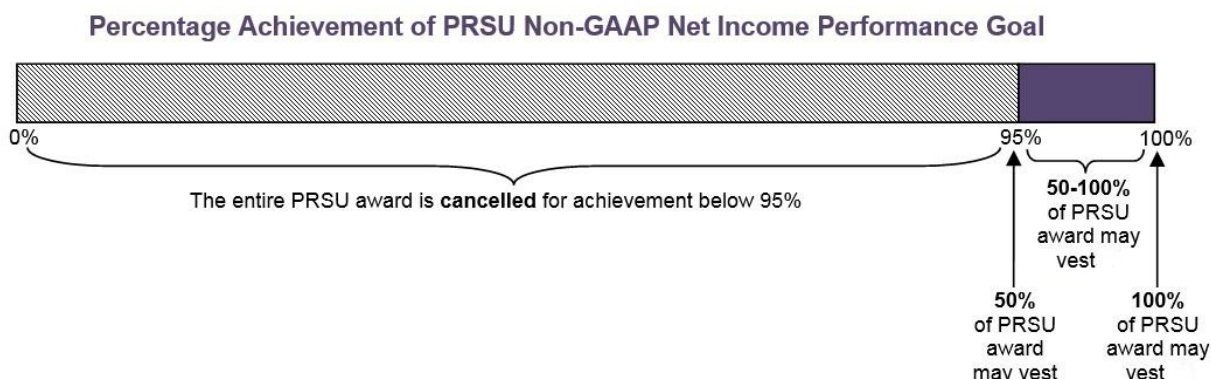
Equity Element Allocation. After choosing the estimated target dollar value for each NEO’s equity awards, the Compensation Committee sought to allocate the dollar value equally between stock options and PRSUs. The Compensation Committee believes this approximate 50/50 ratio is appropriate because it encourages our NEOs to focus both on near-term results, by requiring the achievement of a near-term performance condition for the PRSUs to vest, and on long-term value creation, since stock options and PRSUs reward sustained increases in our stock price, though only to the extent the employee vests in the award by remaining in service for four years.

To determine the target number of PRSU shares to be granted for fiscal 2018, the Compensation Committee used our closing stock price on the grant date to calculate an award worth half of the estimated target equity value. For stock options, the Compensation Committee used a Black-Scholes option-pricing model to estimate the fair value of a stock option share on the expected grant date. Because the grants were based on estimates of conditions on the grant date, the actual grant date fair value of the PRSUs and stock options reported in the Summary Compensation Table below is different, as it is based on our value on the effective grant date.

PRSUs Terms. As in past years, the Compensation Committee selected a non-GAAP net income goal for our fiscal 2018 PRSUs because it is an important measure of our success that is distinct from other metrics used in our EIP, such as the revenue backlog goals focused on our future revenue streams. Non-GAAP net income is GAAP net income adjusted for the amortization of acquired intangible assets, the impact of stock compensation, acquisition-related costs, restructuring charges, the effects of certain settlements, final judgments and loss contingencies related to legal proceedings, the various income tax impacts prompted by tax reform legislation adopted in late 2017, including the income tax related to transition tax, the tax rate change, and tax restructuring, the tax impact of repatriation, and the income tax effect of non-GAAP pre-tax adjustments. Our fiscal 2018 goal was increased above our fiscal 2017 goal to a non-GAAP net income of \$529.0 million, which we believe was established at a level that would be appropriately difficult to attain.

Our PRSUs vest over four years. If the performance goal is achieved, only 25% of the PRSU shares that are eligible to vest based on such performance will vest at the end of the performance year. The remaining PRSU shares that are eligible to vest generally vest annually over the following three years, provided the NEO continues to remain employed by Synopsys, which encourages retention as well as long-term focus and accountability.

Each PRSU grant is made at the maximum amount of shares that can be earned if we fully achieve our goal and will be reduced for actual performance below it. There is no increase in shares for overachievement. The actual number of shares that are eligible to vest depends on the level of achievement of our goal, and achievement below 95% results in the cancellation of the entire award:



If we achieve between 95% and 100% of our performance goal, then between 50% and 100% of the PRSU award is eligible to vest. The exact amount of shares eligible to vest is calculated according to the following matrix approved by the Compensation Committee.

Percentage Achievement of Performance Goal	Percentage of PRSUs Eligible to Vest
<95%	—%
95%	50%
96%	70%
97%	86%
98%	94%
99%	98%
≥100%	100%

The Compensation Committee rewards performance levels between 95% and 100% to provide our NEOs with a partial award for substantially achieving our non-GAAP net income goal. The Compensation Committee believes this limits excessive risk-taking that can be encouraged by a single “all or nothing” performance condition.

Fiscal 2018 PRSU Achievement. We achieved 113.4% of our fiscal 2018 non-GAAP net income performance goal of \$529.0 million, and accordingly, 25% of our NEOs’ fiscal 2018 PRSUs vested on December 12, 2018. The remaining 75% of the shares are scheduled to vest in three equal annual installments beginning on December 8, 2019, as long as the NEO provides continuous services to us.

NEO	Maximum PRSU Shares at Grant	Actual PRSU Shares Eligible for Vesting
Aart J. de Geus	24,859	24,859
Chi-Foon Chan	24,859	24,859
Trac Pham	11,877	11,877
Joseph W. Logan	11,049	11,049
John F. Runkel, Jr.	4,419	4,419

Other Awards. The Compensation Committee retains discretion to grant new-hire, promotional or special recognition awards to NEOs on terms that vary from our annual grants. Except in the case of these special awards, the Compensation Committee generally does not grant restricted stock units unless they are subject to performance conditions. There were no new-hire, promotional or special recognition equity awards in fiscal 2018.

Other Benefits

General Health, Welfare and Other Benefit Plans. Our NEOs are eligible to participate in a variety of employee benefit plans on the same terms as our other employees, including medical, dental and vision care plans, life and disability insurance, our tax-qualified 401(k) plan, and our Employee Stock Purchase

Plan. We believe these benefits are consistent with benefits provided by our peer group and help us to attract and retain high quality executives.

Perquisites and Other Benefits. No executive perquisites or other special executive benefits were given to our NEOs in fiscal 2018. In general, Synopsys and our Compensation Committee do not provide perquisites to our NEOs.

Deferred Compensation Plans. In 1996, the Compensation Committee established a deferred compensation program that allows our NEOs and other highly compensated individuals to save a portion of their compensation on a tax-deferred basis. We offer this program in order to remain competitive with a number of our peer companies and because the tax benefit it offers comes at a relatively low cost to us. The program is currently administered through two deferred compensation plans (one of which is “grandfathered” and closed to new participants). Under these plans, our NEOs and other highly compensated employees may elect to defer up to 50% of their salaries and up to 100% of their cash incentive compensation. Distributions from the deferred compensation plans are generally payable upon termination of employment and are made over 5 to 15 years or as a lump sum, at the option of the participant. We do not make any matching or discretionary contributions to the plans, there are no guarantees or minimum returns on investments, and undistributed amounts under the plans are subject to the claims of our creditors.

Severance and Change of Control Benefits

Executive Change of Control Severance Benefit Plan. We maintain an Executive Change of Control Severance Benefit Plan (Change of Control Plan) that was approved by our Board of Directors in March 2006 and most recently amended in December 2016 primarily to reflect changes in applicable law and administrative practices. Each of our current executive officers is covered under the Change of Control Plan, except Drs. de Geus and Chan, whose benefits are described below. The Change of Control Plan provides for limited cash and equity benefits in the event an executive's employment is terminated in connection with a change of control of Synopsys. The Compensation Committee believes these incentives will help us retain our executives, and therefore maintain the stability of our business, during the potentially volatile period accompanying a change of control. The Compensation Committee believes the benefits are also comparable to benefits offered by our peer group, which helps us attract talented executives and maintain a consistent management team.

The Change of Control Plan only provides benefits if there is a “**double trigger**”: in addition to requiring a change of control for Synopsys, benefits are only provided if either (1) the eligible executive is involuntarily terminated without cause during the 30 days before or 12 months after the change of control; or (2) there is a constructive termination of the executive within 12 months after the change of control.

Our potential payment obligations under the Change of Control Plan are described in the subsection titled “Potential Payments upon Termination of Employment or Change of Control” in the “Executive Compensation Tables” section below.

Severance and Change of Control Arrangements for Dr. Aart de Geus and Dr. Chi-Foon Chan. Drs. de Geus and Chan are not covered by the Change of Control Plan described above but are eligible for severance and change of control benefits through their respective employment agreements, which were entered into in October 1997 and most recently amended in December 2016 primarily to reflect changes in applicable law and administrative practices. As with our other NEOs, we believe that the change of control benefits we offer are reasonable, consistent with benefits offered by our peer group, and help retain the focused services of Drs. de Geus and Chan in the event of a change of control transaction. We further offer severance benefits to Drs. de Geus and Chan, which are only provided for an involuntary termination, because the benefits help us remain competitive for their services, are comparable to the benefits provided by our peer group to similarly situated executives, and are reasonable in amount.

The severance and change of control provisions are the same in each agreement. Change of control benefits require a “**double trigger**”: they are only provided for (1) an involuntary termination of employment without cause within 24 months following a change of control or (2) a voluntary resignation of employment for good reason within 24 months following a change of control. Severance benefits are only payable for (a) an involuntary termination without cause or (b) a voluntary resignation for good reason.

Our potential payment obligations under the employment agreements of Drs. de Geus and Chan are described in the subsection titled “Potential Payments upon Termination of Employment or Change of Control” in the “Executive Compensation Tables” section below.

Equity Plans. If we are acquired or involved in a similar corporate transaction, and the surviving company does not assume, replace or otherwise continue our outstanding equity awards, our equity incentive plans generally provide that all employee awards will fully vest. We provide this benefit to all employees who hold equity awards under our plans to promote the stability and focused service of our workforce during a potentially uncertain time. Our Compensation Committee believes this benefit encourages our employees to work diligently towards the completion of a transaction that would potentially maximize stockholder value, even when our employees’ own equity awards would not survive the transaction.

Fiscal 2019 NEO Target Compensation Decisions

Our overall compensation philosophy for fiscal 2019 strongly emphasizes pay for performance. After considering a number of factors, including our fiscal 2018 performance, preliminary fiscal 2019 outlook, and the positive results of our 2018 say-on-pay vote, the Compensation Committee decided to use the same metrics as fiscal 2018 in setting performance goals under our EIP and for our PRSUs, and set the levels of achievement based on our fiscal 2019 corporate financial plan.

At its meetings in December 2018, the Compensation Committee made several adjustments to individual NEO compensation levels for fiscal 2019:

- **Co-CEOs.** The salary for each of our co-CEOs increased by \$15,000, or approximately 2.9% over fiscal 2018. Consistent with our compensation philosophy, the total target compensation for each of our co-CEOs remains below the median, aligned with approximately the 25th percentile of our peer group.
- **Other NEOs.** In recognition of Mr. Pham’s contributions to the company’s growth, the Compensation Committee increased Mr. Pham’s overall target compensation by approximately 8.7% over fiscal 2018. The Compensation Committee increased Mr. Pham’s salary by \$30,000, or approximately 7.1% over fiscal 2018. Furthermore, the estimated target dollar value of Mr. Pham’s equity grants increased by \$200,000, or approximately 9.3% over fiscal 2018, with the total value split approximately equally between PRSUs and stock options.
- In recognition of Mr. Runkel’s contributions in leading our legal and corporate affairs department and to better align his compensation with current market practices, Mr. Runkel’s overall target compensation was increased by approximately 9.9% over fiscal 2018. Mr. Runkel’s salary was increased by \$25,000, or approximately 6.7% over fiscal 2018. The Compensation Committee also increased the estimated target dollar value of his equity grants by \$100,000, or approximately 12.5% over fiscal 2018, split approximately equally between PRSUs and stock options.
- The salary for Mr. Logan increased by \$10,000, or approximately 2.3% over fiscal 2018, to recognize his role in driving our business growth and to align his total target compensation with approximately the 50th percentile of our peer group.

For fiscal 2019, performance-based compensation is targeted at approximately 92% of total direct compensation for our co-CEOs and at approximately 83% for our other NEOs, on average, as a group.

Compensation Governance and Our Compensation Philosophy

We have designed our executive compensation program to attract, motivate and retain a team of highly qualified executives who will drive technological and business success. In order to motivate and reward our NEOs for work that improves our long-term business performance and increases stockholder value, we have set out the following objectives:

Pay for Performance Align NEO compensation to the success of our business objectives	Competitiveness Provide competitive compensation that attracts and retains top-performing NEOs	Outperformance Motivate NEOs to achieve results that exceed our strategic plan targets
Stockholder Alignment Align the interests of NEOs and stockholders through the managed use of long-term incentives	Balance Set performance goals that reward an appropriate balance of near- and long-term results	Internal Pay Equity Promote teamwork among NEOs by considering internal fairness in setting compensation levels

Pay for Performance

Underlying these objectives is our **pay for performance** philosophy. A large majority of each NEO's target total direct compensation is "performance-based"—that is, contingent upon the overall performance of our business and our stock performance. We believe the direct link between pay and performance is an effective way to motivate our NEOs to achieve key financial objectives and, ultimately, increase stockholder value.

Role of Compensation Committee

Our Compensation Committee is responsible for determining NEO compensation. The Compensation Committee is comprised of three independent directors and meets regularly throughout the year to review and discuss, among other items, our compensation philosophy, changes in compensation governance and compliance rules and best practices, and the composition of our peer group for pay comparisons. In December 2018, the Compensation Committee reviewed and approved:

- The level of achievement of financial performance goals for the prior fiscal year;
- Annual incentive compensation earned, if any, based on the prior fiscal year achievement;
- Annual financial performance goals for the current fiscal year; and
- The level and mix of NEO target compensation for the current fiscal year.

Role of Compensation Committee Consultant

Our Compensation Committee directly retained the services of Radford, an Aon company, as an independent compensation consultant for fiscal 2018. The Compensation Committee conducts an annual assessment of its consultant's performance and re-appoints its consultant each year. Radford has served as the Compensation Committee's consultant since September 2006. The Compensation Committee may replace Radford or hire additional consultants at any time. The Compensation Committee retains sole authority to appoint and compensate Radford and to oversee its work for the Committee. Synopsys pays the fees for the services provided by Radford to the Compensation Committee. In fiscal 2018, the services provided by Radford included:

- Assisting in the selection of our peer group companies for fiscal 2019 (and with the determination of our fiscal 2018 peer group in fiscal 2017);
- Providing and analyzing compensation survey data;
- Helping the Compensation Committee interpret compensation data;
- Assisting in the review of recent governance trends for potential policy updates;
- Advising on the reasonableness of our NEO compensation levels and programs;
- Assisting in the review of non-employee director compensation, including analysis of benchmarking data;
- Assisting in the review of the NEO compensation disclosure in this Proxy Statement;

- Conducting a detailed review of our cash and equity compensation plans to provide an independent view of the risks associated with our compensation programs, including those for our NEOs; and
- Attending each Compensation Committee meeting, including meeting with the Committee in private sessions, without management present.

In addition to the fees we paid Radford for services provided to our Compensation Committee, we also paid \$100,300 in fees to Radford during fiscal 2018 for access by our Human Resources department to Radford's general employee compensation benchmarking data. After considering the factors set forth in Rule 10C-1(b)(4) under the Exchange Act and Nasdaq Listing Rule 5605(d)(3)(D), including a review of the access fees described above and Radford's representations to the Compensation Committee regarding each factor, the Committee determined that Radford was independent.

Peer Group Comparisons

Our Compensation Committee reviews compensation data from a specific group of companies that are similar to us in scale and organizational complexity in considering the compensation of our NEOs. At the time of the selection in April 2017, the Compensation Committee selected the peer group companies listed below for fiscal 2018 because they (1) were business or labor market competitors in the software (excluding gaming and e-commerce) or fabless semiconductor industries; (2) generated annual revenues between approximately 0.5 and 2.5 times Synopsys' revenue (approximately \$1.3 billion to \$6.5 billion); and (3) had a market capitalization between approximately 0.5 and 3.0 times Synopsys' market capitalization (approximately \$5.0 billion to \$32.0 billion).

Fiscal 2018 Peer Group

ANSYS, Inc.	Microchip Technology Inc.
Autodesk, Inc.	Nuance Communications, Inc.
CA, Inc.	Open Text Corporation
Cadence Design Systems, Inc.	PTC Inc.
Citrix Systems, Inc.	Red Hat, Inc.
Intuit Inc.	Symantec Corporation
Marvell Technology Group Ltd.	Trimble Navigation Ltd.
Mentor Graphics Corporation	Xilinx, Inc.

Linear Technology Corporation, which was included in our fiscal 2017 peer group, was acquired by Analog Devices, Inc. in March 2017.

The Compensation Committee uses peer group comparisons to measure the competitiveness of our compensation practices. Peer data is just one of the factors in the Compensation Committee's pay decisions, however, which also take into account individual performance, an NEO's level of experience and responsibilities, internal pay equity, our compensation budget, historical compensation levels, and other considerations.

For fiscal 2018, the Compensation Committee referred to the 25th to 75th percentiles of our peers to compare target total direct compensation levels. The Compensation Committee believes this range provides meaningful differentials in pay levels that represent differences in the criticality and performance of each role across companies, and also reflects the full range of competitive pay at our peer companies without focusing on extreme outliers.

Fiscal 2018 total target compensation for each of our co-CEOs was at approximately the 25th percentile of our peers. The Compensation Committee believes this level was appropriate as it reflects our co-CEOs' emphasis on internal pay equity and helps manage the overall budgetary cost of our co-CEO structure.

Role of Management

Our Compensation Committee discusses NEO performance assessments and compensation targets with Dr. de Geus and our Human Resources and Facilities Officer. To assess co-CEO performance, the Compensation Committee oversees a comprehensive assessment process that includes feedback from our Board of Directors and members of senior management and is facilitated by our Human Resources and Facilities Officer. We also have an executive compensation team that provides background on company budgetary constraints and internal pay comparisons to help the Compensation Committee understand Radford's recommendations in those contexts. No NEO is present for Compensation Committee decisions related to their individual compensation.

Tally Sheets

Prior to approving target compensation levels for the upcoming fiscal year, our Compensation Committee reviews tally sheets for each NEO to review how each core element of compensation relates to other elements and to total pay. The tally sheets summarize target total direct compensation, as well as potential payments upon change of control or, if applicable, involuntary termination. The tally sheets also summarize historical compensation for our NEOs, allowing the Compensation Committee to review NEO total pay that could be earned over time.

Annual Say-on-Pay Vote

Our stockholders have the opportunity to cast an annual advisory vote on our NEO compensation (say-on-pay vote)—see Proposal 3 above. Last year's proxy statement detailed our fiscal 2017 named executive officer compensation as well as important compensation decisions for fiscal 2018, including fiscal 2018 NEO salaries, equity grants, and the metrics that would be used in determining achievement of performance-based compensation.

Approximately 93% of voted shares approved our named executive officer compensation as disclosed in last year's proxy statement. Although the vote is non-binding, the Compensation Committee considers the results of the say-on-pay vote when making compensation decisions, allowing our stockholders to provide input on our compensation philosophy, policies and practices. The Compensation Committee believes that our historical voting results demonstrate strong support for its decision to maintain a similar compensation philosophy and structure each year. Accordingly, we did not make any changes to our compensation policies and practices.

We are committed to engagement with our stockholders, as we believe that understanding our current and potential stockholders' perspectives is vital to how we conduct our business. During fiscal 2018, we augmented this program by holding a series of meetings with the corporate governance leaders of institutional stockholders who own a significant percentage of our outstanding common stock. We believe that ongoing relationships and conversations enable us to better understand their views on important issues such as corporate governance, executive compensation, and corporate social responsibility. The feedback that we receive from our stockholders—through these meetings, regular stockholder outreach, and perception surveys—helps to strengthen our corporate practices over time.

Other Important Compensation Practices

Stock Ownership Guidelines. Our Compensation Committee has maintained stock ownership guidelines since fiscal 2003, and reviews those guidelines periodically in accordance with best practices, to further align the interests of our senior management with those of our stockholders. Under our current guidelines, individuals employed in certain specified positions are encouraged to achieve the recommended stock ownership level within four years. Such individuals may accumulate shares of our common stock through stock option exercises, purchases under our Employee Stock Purchase Plan, through open market purchases made in compliance with applicable securities laws, or through any other equity plans that we may adopt from time to time. The stock ownership recommendations for our current NEOs are: Dr. de Geus—50,000 shares; Dr. Chan—50,000 shares; Mr. Pham—10,000 shares; Mr. Logan

—10,000 shares; and Mr. Runkel—10,000 shares.

As of the end of fiscal 2018, each of our NEOs held the recommended number of shares. Furthermore, our co-CEOs each held at least four times their recommended number of shares.

Equity Grant Timing Policy. We generally grant equity awards to executives at the beginning of each fiscal year at a Compensation Committee meeting that is typically scheduled more than a year in advance. For stock option grants, the Compensation Committee sets the exercise price at the closing price of our common stock on the Nasdaq Global Select Market on the date of the meeting. We generally plan to hold the meeting within two weeks after the release of our financial results such that the option exercise price reflects a fully-informed market price. In the event the meeting falls before the release of our financial results, the Compensation Committee will generally approve the stock option grants prior to the release of our results but set the exercise price to be the market closing price on the second trading day following the release. In the case of new-hire, promotional, or special recognition equity grants for executives, the Compensation Committee typically grants such awards shortly after the hiring, promotion or special achievement occurs, unless it is during a closed company trading window, which includes periods immediately preceding the release of our financial results.

Burn Rate. Each fiscal year, the Compensation Committee approves an annual gross equity budget to closely manage our equity compensation share reserve and stockholder dilution. The Compensation Committee endeavors to achieve a gross burn rate that approximates the average rate for our peer group companies as well as for the software and services industry more generally, and to achieve burn rates that are within the limits published by independent shareholder advisory groups, such as ISS.

Our gross burn rate for each of the last several years has been well within the guidelines recommended by ISS. Even with executing \$400 million in share repurchases during the fiscal year, our gross share usage was limited to 1.8% for fiscal 2018.

Tax Deductibility of NEO Compensation. Section 162(m) of the Code (Section 162(m)) generally disallows a federal tax deduction for compensation paid to certain executive officers (and, beginning in 2018, certain former executive officers) in excess of \$1,000,000. Historically, compensation that qualifies as “performance-based compensation” under Section 162(m) could be excluded from this \$1,000,000 limit, but this exception has now been repealed, effective for tax years beginning after December 31, 2017, unless transition relief for certain compensation arrangements in place as of November 2, 2017 is available.

Compensation decisions for our NEOs prior to 2018 were generally made after consideration of the Section 162(m) implications, but the Compensation Committee retained discretion to make compensation decisions in light of a variety of considerations. Based on the repeal described above and the operation of Section 162(m), compensation granted by the Compensation Committee may not qualify as “performance-based compensation” under certain circumstances. The Compensation Committee retains the flexibility to award compensation that is consistent with our objectives and philosophy even if it does not qualify for a tax deduction.

Clawback Policy. In December 2008, our Board of Directors adopted a Compensation Recovery Policy, which allows us to recover or “clawback” cash and equity compensation paid to covered employees under certain circumstances. Pursuant to the policy, we may require a covered employee to return all or a portion of any compensation paid or received after January 1, 2009, if: (1) the compensation was based on the achievement of financial results, and the results were the subject of a substantial restatement of our financial statements as filed with the Securities and Exchange Commission; and (2) less compensation would have been earned by the employee based on the restated financial results. Our Board of Directors has the sole authority to enforce this policy, and it is limited by applicable law. Each of our NEOs is subject to our Compensation Recovery Policy.

No Hedging Transactions. Our insider trading policy prohibits our employees, including our NEOs, and directors from engaging in hedging transactions (as defined in our policy) in our common stock.

No Pledging. Our insider trading policy prohibits our employees, including our NEOs, and directors from holding our common stock in a margin account or pledging it as collateral for a loan.

Conclusion

We remain strongly committed to our pay for performance philosophy. As a result of the compensation program described above, the majority of each NEO's compensation depends upon the achievement of our business goals. Our Compensation Committee gives careful consideration to each core element of direct compensation for each NEO. The Compensation Committee believes our NEO compensation program is effective in advancing our goals, reasonable in light of the programs of our peers, and responsible in encouraging our NEOs to work for crucial innovation, business growth and outstanding stockholder returns, without promoting unnecessary or excessive risks.

Compensation Risk Assessment

Our Compensation Committee aims to establish company-wide compensation policies and practices that reward contributions to long-term stockholder value and do not promote unnecessary or excessive risk-taking. In furtherance of this objective, in December 2018, our Compensation Committee conducted an assessment of our company-wide compensation arrangements. The assessment process included, among other things, a review of our (1) compensation philosophy, (2) compensation at peer group companies, (3) our core compensation element mix and (4) the terms and payments under our cash and equity incentive plans. As part of that review, our Compensation Committee asked Radford, its independent compensation consultant, to perform a detailed review of our cash and equity compensation plans in comparison to market practices.

The Compensation Committee considered the following, among other factors:

- Our revenue model and our cash incentive plan that is available to both executives and non-executive employees encourage our employees to focus on creating a stable, predictable stream of revenue over multiple years, rather than focusing on current year revenue at the expense of succeeding years.
- The allocation of compensation among our core compensation elements effectively balances short-term performance and long-term performance.
- Our cash and equity incentive awards focus on both near-term and long-term goals and, in the case of equity incentive awards, provide for compensation over a four-year period, to encourage our employees to remain focused on our performance beyond the immediate fiscal year.
- The performance goals for our cash and equity incentive awards use a variety of performance metrics, which diversifies the risk associated with any one metric or aspect of performance.
- Our cash and equity incentive awards contain a range of performance levels and payouts to discourage employees from taking risky actions to meet a single target with an all-or-nothing result of compensation or no compensation.
- Our Executive Incentive Plan caps cash incentive payments at a maximum award size. In addition, the Compensation Committee retains discretion to adjust our employees' incentive payments under the plan.
- Our cash incentive payments and equity awards are subject to a clawback policy to recover compensation in the event of a substantial financial restatement.
- Our executives are encouraged to hold a meaningful number of shares of our common stock under our stock ownership policy.

Based upon this assessment, our Compensation Committee believes that our company-wide compensation policies and practices are reasonable and encourage appropriate behaviors without creating risks that are reasonably likely to have a material adverse effect on us.

Compensation Committee Report*

The Compensation Committee has reviewed and discussed the Compensation Discussion and Analysis contained in this Proxy Statement with management. Based on the Compensation Committee's review of, and the discussions with management with respect to, the Compensation Discussion and Analysis, the Compensation Committee recommended to the Board of Directors that the Compensation Discussion and Analysis be included in this Proxy Statement and in our Annual Report on Form 10-K for filing with the Securities and Exchange Commission.

The foregoing report is provided by the following directors, who constitute the Compensation Committee:

COMPENSATION COMMITTEE

Chrysostomos L. "Max" Nikias, Chair

Janice D. Chaffin

Bruce R. Chizen

* This report shall not constitute "soliciting material," shall not be deemed "filed" with the Securities and Exchange Commission, and is not to be incorporated by reference into any of our other filings under the Securities Act of 1933, as amended (referred to in this Proxy Statement as the Securities Act), or the Exchange Act, except to the extent we specifically incorporate this report by reference therein.

Compensation Committee Interlocks and Insider Participation

During fiscal 2018, the Compensation Committee consisted of Bruce R. Chizen, Chrysostomos L. “Max” Nikias and Steven C. Walske. None of the members of the Compensation Committee is nor was, during fiscal 2018, an officer or employee of Synopsys, none of the members of the Compensation Committee was formerly an officer of Synopsys, and none of our executive officers serves or, during fiscal 2018, served as a member of a board of directors or compensation committee of any entity that has or, during fiscal 2018, had one or more executive officers serving as a member of our Board or Compensation Committee.

Executive Compensation Tables

Summary Compensation Table

The following table shows compensation awarded to, paid to, or earned by each of our NEOs for fiscal 2018: Dr. de Geus and Dr. Chan, our co-Chief Executive Officers; Mr. Pham, our Chief Financial Officer; Mr. Logan, our Sales and Corporate Marketing Officer; and Mr. Runkel, our General Counsel and Corporate Secretary (collectively, NEOs). The table shows compensation for services performed during fiscal 2018, fiscal 2017, and fiscal 2016.

Name and Principal Position	Year	Salary \$(1)	Bonus (\$)	Stock Awards \$(2)	Option Awards \$(2)	Non-Equity Incentive Plan Compensation \$(3)	All Other Compensation \$(4)	Total \$(5)
Aart J. de Geus Co-Chief Executive Officer and Chairman of the Board of Directors	2018	\$ 535,100	\$ —	\$ 2,249,988	\$ 2,249,998	\$ 2,394,000	\$ 3,750	\$ 7,432,836
	2017	525,000	—	1,849,978	1,878,174	2,395,000	4,000	6,652,152
	2016	500,000	—	1,749,994	1,683,250	1,753,000	28,808	5,715,052
Chi-Foon Chan Co-Chief Executive Officer and President	2018	\$ 535,100	\$ —	\$ 2,249,988	\$ 2,249,998	\$ 2,394,000	\$ 4,038	\$ 7,433,124
	2017	525,000	—	1,849,978	1,878,174	2,395,000	4,000	6,652,152
	2016	500,000	—	1,749,994	1,683,250	1,753,000	26,884	5,713,128
Trac Pham Chief Financial Officer	2018	\$ 433,200	\$ —	\$ 1,074,987	\$ 1,074,995	\$ 726,800	\$ 5,038	\$ 3,315,020
	2017	409,000	—	799,926	808,376	695,000	4,000	2,716,302
	2016	370,000	—	482,514	464,092	524,100	15,058	1,855,764
Joseph W. Logan Sales and Corporate Marketing Officer	2018	\$ 448,500	\$ —	\$ 1,000,044	\$ 999,994	\$ 1,320,000	\$ 4,000	\$ 3,772,538
	2017	440,000	—	1,000,029	1,015,235	1,255,000	3,000	3,713,264
	2016	410,000	—	824,995	793,528	1,089,500	23,769	3,141,792
John F. Runkel, Jr. General Counsel and Corporate Secretary	2018	\$ 382,200	\$ —	\$ 399,963	\$ 400,009	\$ 472,500	\$ 4,038	\$ 1,658,710
	2017	350,000	—	377,493	383,247	404,300	4,000	1,519,040
	2016	350,000	—	377,490	363,100	404,600	7,446	1,502,636

- (1) Since fiscal 2018 was a 53-week fiscal year, the salary amounts for fiscal 2018 reflect an extra week of pay.
- (2) The amounts shown for stock awards and option awards represent the aggregate grant date fair value of such awards granted to our NEOs in fiscal 2018, fiscal 2017, and fiscal 2016 as computed in accordance with ASC Topic 718, *Compensation—Stock Compensation*. For each award, the grant date fair value is calculated using the closing price of our common stock on the grant date and, in the case of performance-based restricted stock unit awards, assuming 100% probability of achievement of performance conditions as of the grant date, which is also the maximum level of performance that may be achieved for such awards. These amounts do not represent the actual value that may be realized by the NEO upon vesting or exercise of such awards. For information on the assumptions used to calculate the value of the awards, refer to Note 10 to the consolidated financial statements contained in our 2018 Annual Report on Form 10-K.
- (3) Amounts consist of cash-based incentive compensation earned for the achievement of performance objectives approved by our Compensation Committee for fiscal 2018, fiscal 2017, and fiscal 2016, as applicable, under our Executive Incentive Plan (EIP).
- (4) Amounts for fiscal 2018 include the following:

Name	401(k) Matching Contributions \$(A)	HSA Matching Contributions \$(B)	Charitable Matching Contributions \$(C)	Total (\$)
Aart J. de Geus	\$ 3,000	\$ 750	\$ —	\$ 3,750
Chi-Foon Chan	3,000	1,038	—	4,038
Trac Pham	3,000	1,038	1,000	5,038
Joseph W. Logan	3,000	—	1,000	4,000
John F. Runkel, Jr.	3,000	1,038	—	4,038

- (A) Amounts include matching contributions made by Synopsys under our tax-qualified 401(k) plan, which provides for broad-based U.S. employee participation.
 - (B) Amounts include matching contributions made by Synopsys to each NEO's health savings account at the same rate as for our other employees who enroll in this health plan.
 - (C) Amounts include matching contributions made by the Synopsys Foundation on behalf of our NEOs as part of a broad-based charitable matching program available to all U.S. employees.
- (5) Amounts exclude non-qualified deferred compensation earnings because we do not regard the returns from the investment alternatives selected by the executive for such earnings to be above-market or preferential as they are consistent with the types of investment opportunities generally provided to our employees under our tax-qualified 401(k) plan and Synopsys does not supplement or guarantee the returns on amounts deferred.

Grants of Plan-Based Awards

The following table sets forth certain information with respect to grants of plan-based awards in fiscal 2018 to our NEOs, including cash awards and equity awards. The equity awards granted to our NEOs in fiscal 2018 were granted under our 2006 Employee Equity Incentive Plan.

Name	Grant Date	Estimated Possible Payouts Under Non-Equity Incentive Plan Awards(1)			Estimated Future Payouts Under Equity Incentive Plan Awards(2)			All Other Stock Awards: Number of Shares or Stock of Units (#)	All Other Option Awards: Number of Securities Underlying Options (#)(3)	Exercise or Base Price of Option Awards (\$/Sh)(4)	Grant Date Fair Value of Stock and Option Awards\$(5)
		Threshold (\$)	Target (\$)	Maximum (\$)	Threshold (#)	Target (#)	Maximum (#)				
Aart J. de Geus	12/08/2017	\$ 850,500	\$ 1,260,000	\$ 2,520,000	—	—	—	—	—	\$ —	\$ —
	12/08/2017	—	—	—	12,430	24,859	24,859	—	—	—	2,249,988
	12/08/2017	—	—	—	—	—	—	—	120,839	90.51	2,249,998
Chi-Foon Chan	12/08/2017	\$ 850,500	\$ 1,260,000	\$ 2,520,000	—	—	—	—	—	\$ —	\$ —
	12/08/2017	—	—	—	12,430	24,859	24,859	—	—	—	2,249,988
	12/08/2017	—	—	—	—	—	—	—	120,839	90.51	2,249,998
Trac Pham	12/08/2017	\$ 258,188	\$ 382,500	\$ 765,000	—	—	—	—	—	\$ —	\$ —
	12/08/2017	—	—	—	5,939	11,877	11,877	—	—	—	1,074,987
	12/08/2017	—	—	—	—	—	—	—	57,734	90.51	1,074,995
Joseph W. Logan	12/08/2017	\$ 445,500	\$ 660,000	\$ 1,320,000	—	—	—	—	—	\$ —	\$ —
	12/08/2017	—	—	—	5,525	11,049	11,049	—	—	—	1,000,044
	12/08/2017	—	—	—	—	—	—	—	53,706	90.51	999,994
John F. Runkel, Jr.	12/08/2017	\$ 177,188	\$ 262,500	\$ 525,000	—	—	—	—	—	\$ —	\$ —
	12/08/2017	—	—	—	2,210	4,419	4,419	—	—	—	399,963
	12/08/2017	—	—	—	—	—	—	—	21,483	90.51	400,009

- (1) Represents possible cash award payouts for fiscal 2018 under the EIP. Cash awards paid to NEOs under the EIP are dependent on the achievement of certain performance targets, as well as the level of achievement. The amounts listed under the "Threshold" column represent the cash awards payable to NEOs under the EIP at a 90% average achievement of the Corporate Financial Goals described in "Compensation Discussion and Analysis" beginning on page 32 under the subsection titled "Cash Incentive Payment." Pursuant to the EIP, if the average achievement of the Corporate Financial Goals is below 90%, no cash awards are paid. The amounts listed under the "Target" column represent the cash awards payable in fiscal 2018 at a 100% average achievement of the Corporate Financial Goals. The amounts listed under the "Maximum" column represent the maximum cash awards payable, which for each NEO equals the lesser of \$4,000,000 or 200% of the NEO's target variable cash incentive compensation. Actual cash awards paid to the NEOs for fiscal 2018 are reported in the Summary Compensation Table on page 53 under the "Non-Equity Incentive Plan Compensation" column.
- (2) Represents stock awards that are eligible to vest only upon achievement of pre-established performance goals. Such awards are granted as restricted stock units and are issued as an equivalent number of shares of our common stock following vesting. The vesting criterion for the target award was the achievement of \$529.0 million of non-GAAP net income for fiscal 2018, as further described in "Compensation Discussion and Analysis" beginning on page 32 under the subsection titled "Equity Awards." The amounts listed under the "Target" and "Maximum" columns represent the stock awards eligible to vest if 100%, or more than 100%, respectively, of such non-GAAP net income target is achieved. The amounts listed under the "Threshold" column represent the stock awards eligible to vest if 95% of the non-GAAP net income target is achieved. If less than 95% of the non-GAAP net income target is achieved, no stock awards are eligible to vest. As the target vesting criterion was achieved at more than 100%, 25% of each respective maximum award vested on December 12, 2018, and the remaining 75% of each respective award is scheduled to vest in three equal annual installments beginning on December 8, 2019, so long as the NEO provides continuous services to us.
- (3) The option vested with respect to 25% of the shares on the first anniversary of the Grant Date and with respect to 3/48ths of the shares quarterly thereafter, such that all shares subject to the stock option will vest on December 8, 2021, so long as the NEO provides continuous services to us.
- (4) Represents the closing price of our common stock as reported on the Nasdaq Global Select Market on December 8, 2017, the effective date of grant of these awards.
- (5) Represents the fair value of the stock and option awards on the grant date, as computed in accordance with FASB ASC Topic 718. These amounts do not represent the actual value that may be realized by the NEO upon vesting or exercise of such awards. For information on the assumptions used to calculate the fair value of the stock and option awards, refer to Note 10 to the consolidated financial statements contained in our 2018 Annual Report on Form 10-K.

Outstanding Equity Awards at Fiscal 2018 Year-End

The following table summarizes the number of securities underlying outstanding equity awards for our NEOs as of November 3, 2018, the end of fiscal 2018:

Name	Grant Date	Option Awards				Stock Awards			
		Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)(1)	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$)(1)
Aart J. de Geus	12/12/2012	160,000	—	\$ 32.38	12/12/2019	—	\$ —	—	\$ —
	12/12/2013	156,100	—	38.07	12/12/2020	—	—	—	—
	12/12/2014	158,366	10,558(2)	42.43	12/12/2021	—	—	—	—
	12/12/2014	—	—	—	—	7,365(3)	659,609	—	—
	12/15/2015	128,567	58,440(4)	45.23	12/15/2022	—	—	—	—
	12/15/2015	—	—	—	—	19,345(5)	1,732,538	—	—
	12/15/2016	70,393	90,506(6)	60.37	12/15/2023	—	—	—	—
	12/15/2016	—	—	—	—	22,983(7)	2,058,357	—	—
	12/08/2017	—	120,839(8)	90.51	12/08/2024	—	—	—	—
	12/08/2017	—	—	—	—	—	—	24,859(9)	2,226,372
Chi-Foon Chan	12/12/2013	117,075	—	\$ 38.07	12/12/2020	—	\$ —	—	\$ —
	12/12/2014	158,366	10,558(2)	42.43	12/12/2021	—	—	—	—
	12/12/2014	—	—	—	—	7,365(3)	659,609	—	—
	12/12/2015	128,567	58,440(4)	45.23	12/15/2022	—	—	—	—
	12/15/2015	—	—	—	—	19,345(5)	1,732,538	—	—
	12/15/2016	70,393	90,506(6)	60.37	12/15/2023	—	—	—	—
	12/15/2016	—	—	—	—	22,983(7)	2,058,357	—	—
	12/08/2017	—	120,839(8)	90.51	12/08/2024	—	—	—	—
	12/08/2017	—	—	—	—	—	—	24,859(9)	2,226,372
Trac Pham	05/24/2013	875	—	\$ 35.71	5/24/2020	—	\$ —	—	\$ —
	05/23/2014	2,154	—	39.09	5/23/2021	—	—	—	—
	12/12/2014	20,693	2,957(2)	42.43	12/12/2021	—	—	—	—
	12/12/2014	—	—	—	—	2,062(3)	184,672	—	—
	12/15/2015	35,447	16,113(4)	45.23	12/15/2022	—	—	—	—
	12/15/2015	—	—	—	—	5,334(5)	477,713	—	—
	12/15/2016	20,928	26,907(6)	60.37	12/15/2023	—	—	—	—
	12/15/2016	—	—	—	—	6,832(7)	611,873	—	—
	05/19/2017	5,867	12,907(10)	70.99	5/19/2024	—	—	—	—
	05/19/2017	—	—	—	—	2,640(11)	236,438	—	—
	12/08/2017	—	57,734(8)	90.51	12/08/2024	—	—	—	—
	12/08/2017	—	—	—	—	—	—	11,877(9)	1,063,704
Joseph W. Logan	12/12/2012	20,000	—	\$ 32.38	12/12/2019	—	\$ —	—	\$ —
	12/12/2013	64,800	—	38.07	12/12/2020	—	—	—	—
	12/12/2013	25,000	—	38.07	12/12/2020	—	—	—	—
	12/12/2014	88,685	5,913(2)	42.43	12/12/2021	—	—	—	—
	12/12/2014	—	—	—	—	4,124(3)	369,345	—	—
	12/15/2015	60,610	27,550(4)	45.23	12/15/2022	—	—	—	—
	12/15/2015	—	—	—	—	9,120(5)	816,787	—	—
	12/15/2016	38,050	48,923(6)	60.37	12/15/2023	—	—	—	—
	12/15/2016	—	—	—	—	12,423(7)	1,112,603	—	—
	12/08/2017	—	53,706(8)	90.51	12/08/2024	—	—	—	—
	12/08/2017	—	—	—	—	—	—	11,049(9)	989,548
	12/08/2017	—	—	—	—	—	—	—	—
John F. Runkel, Jr.	12/12/2014	3,062	3,062(2)	\$ 42.43	12/12/2021	—	\$ —	—	\$ —
	12/12/2014	—	—	—	—	2,136(3)	191,300	—	—
	12/15/2015	20,796	12,606(4)	45.23	12/15/2022	—	—	—	—
	12/15/2015	—	—	—	—	4,172(5)	373,644	—	—
	12/15/2016	14,364	18,468(6)	60.37	12/15/2023	—	—	—	—

	Option Awards				Stock Awards			
12/15/2016	—	—	—	—	4,689(7)	419,946	—	—
12/08/2017	—	21,483(8)	90.51	12/08/2024	—	—	—	—
12/08/2017	—	—	—	—	—	—	4,419(9)	395,765

- (1) The market value of stock awards was determined by multiplying the number of unvested or unearned shares by the closing price of our common stock of \$89.56 on November 2, 2018, the last trading day of fiscal 2018, as reported on the Nasdaq Global Select Market.
- (2) Option vests over four years at a rate of 6.25% on the third monthly anniversary of the grant date and 6.25% per quarter thereafter, so long as the NEO provides continuous services to us. Accordingly, 6.25% of the underlying shares for these stock options became exercisable on March 12, 2015 and 6.25% became exercisable quarterly thereafter until the remaining 6.25% vested subsequent to fiscal year end on December 12, 2018.
- (3) These restricted stock unit awards were eligible to vest in four equal annual installments upon achievement of pre-established performance goals, namely the achievement of \$414.0 million of non-GAAP net income for fiscal 2015. This goal was achieved and, accordingly, 25% of the target awards vested on December 15, 2015, December 8, 2016, and December 8, 2017, respectively, and the remaining 25% vested subsequent to fiscal year end on December 8, 2018.
- (4) Option vests over four years at a rate of 6.25% on the third monthly anniversary of the grant date and 6.25% per quarter thereafter, so long as the NEO provides continuous services to us. Accordingly, 6.25% of the underlying shares for these stock options became exercisable on March 15, 2016 and 6.25% became and, so long as the NEO provides continuous services to us, will become, exercisable quarterly thereafter until fully vested on December 15, 2019.
- (5) These restricted stock unit awards were eligible to vest in four equal annual installments upon achievement of pre-established performance goals, namely the achievement of \$454.0 million of non-GAAP net income for fiscal 2016. This goal was achieved and, accordingly, 25% of the target awards vested on December 15, 2016 and December 8, 2017, and subsequent to fiscal year end on December 8, 2018, respectively, and the remaining 25% are scheduled to vest on December 8, 2019, so long as the NEO provides continuous services to us.
- (6) Option vests over four years at a rate of 6.25% on the third monthly anniversary of the grant date and 6.25% per quarter thereafter, so long as the NEO provides continuous services to us. Accordingly, 6.25% of the underlying shares for these stock options became exercisable on March 15, 2017 and 6.25% became and, so long as the NEO provides continuous services to us, will become, exercisable quarterly thereafter until fully vested on December 15, 2020.
- (7) These restricted stock unit awards were eligible to vest in four equal annual installments upon achievement of pre-established performance goals, namely the achievement of \$480.0 million of non-GAAP net income for fiscal 2017. This goal was achieved and, accordingly, 25% of the target awards vested on December 8, 2017 and subsequent to fiscal year end on December 8, 2018, respectively, and the remaining 50% are scheduled to vest in two equal annual installments beginning on December 8, 2019, so long as the NEO provides continuous services to us.
- (8) Option vests as to 25% of the shares subject to the option on the one-year anniversary of the grant date and as to 6.25% of such shares per quarter thereafter, such that all shares will fully vest on December 8, 2021, so long as the NEO provides continuous services to us.
- (9) These restricted stock unit awards were eligible to vest in four equal annual installments upon achievement of pre-established performance goals, namely the achievement of \$529.0 million of non-GAAP net income for fiscal 2018 as further described in the "Compensation Discussion and Analysis" section beginning on page 32, under the subsection titled "Equity Awards." This goal was achieved and, accordingly, 25% of the target awards vested subsequent to fiscal year end on December 12, 2018, and the remaining 75% are scheduled to vest in three equal annual installments beginning on December 8, 2019, so long as the NEO provides continuous services to us.
- (10) Option vests over four years at a rate of 6.25% on the third monthly anniversary of the grant date and 6.25% per quarter thereafter, so long as Mr. Pham provides continuous services to us. Accordingly, 6.25% of the underlying shares for this stock option became exercisable on August 19, 2017 and 6.25% became and, so long as the NEO provides continuous services to us, will become, exercisable quarterly thereafter until fully vested on May 19, 2021.
- (11) This restricted stock unit award vests in four equal annual installments beginning on June 15, 2018, so long as Mr. Pham provides continuous services to us.

Option Exercises and Stock Vested in Fiscal 2018

The following table provides information with respect to all stock options exercised and the value realized upon exercise, and all stock awards vested and the value realized upon vesting, by our NEOs during fiscal 2018.

Name	Option Awards		Stock Awards	
	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise \$(1)	Number of Shares Acquired on Vesting #(2)	Value Realized on Vesting \$(3)
Aart J. de Geus	—	\$ —	33,424	\$ 3,025,206
Chi-Foon Chan	40,000	2,228,846	33,424	3,025,206
Trac Pham	—	—	9,326	844,235
Joseph W. Logan	50,313	3,088,236	16,451	1,488,980
John F. Runkel, Jr.	39,802	1,990,925	5,787	523,781

- (1) The value realized on exercise equals the difference between (a) either (i) the actual sales price of our common stock underlying the options exercised if the shares were immediately sold or (ii) the closing price per share of our common stock as reported on the Nasdaq Global Select Market on the date of exercise if the shares were held, and (b) the applicable exercise price of such stock options.
- (2) Such number of shares represents the gross number of shares acquired by the NEO on the vesting date. Synopsys withholds shares for tax purposes and the NEO actually receives a smaller number of shares.
- (3) The value realized on vesting equals the closing price per share of our common stock as reported on the Nasdaq Global Select Market on the vesting date multiplied by the gross number of shares acquired on vesting as described above in note (2).

Non-Qualified Deferred Compensation

We maintain a non-qualified deferred compensation program for a select group of management and highly compensated employees so that an eligible employee may elect, on a prospective basis, to defer the receipt of a portion of the compensation they receive from us. The program is administered under two plans: the Synopsys Deferred Compensation Plan (Deferred Compensation Plan I) and the Synopsys Amended and Restated Deferred Compensation Plan II (Deferred Compensation Plan II). The amount of earnings (or losses) that accrue to a participant's account under either the Deferred Compensation Plan I or the Deferred Compensation Plan II depends on the performance of investment alternatives selected by the participant. The investment alternatives under both plans consist of various investment funds that are generally consistent with the investment opportunities provided to our employees under our 401(k) plan, which are selected and monitored by our Deferred Compensation Plans Committee. Therefore, we do not regard the returns from these investment alternatives as above-market or preferential. We do not supplement or guarantee the returns on amounts deferred under either plan. We have entered into a trust agreement, with a third-party provider acting as trustee, to hold certain funds in connection with the program. All funds held in the trust are subject to the claims of our creditors.

The Deferred Compensation Plan I administers the elective deferrals made by eligible employees, including Dr. Chan, prior to January 1, 2005. No further contributions may be made to the Deferred Compensation Plan I; however, gains and losses and distributions and withdrawals continue to be processed on existing account balances in accordance with the terms of the Deferred Compensation Plan I as of December 31, 2004. All accrued balances maintained under the Deferred Compensation Plan I are fully vested. Amounts may be withdrawn from the plan pursuant to elections made by the participants in accordance with the terms of the Deferred Compensation Plan I, including elective withdrawals subject to a 10% forfeiture.

The Deferred Compensation Plan II was originally adopted in 2005 in order to comply with Section 409A of the Internal Revenue Code, and currently allows the deferral by eligible employees of up to 50% of salary and 100% of cash incentive compensation. All account balances maintained under the Deferred Compensation Plan II are currently fully vested. However, we may, at our discretion, make contributions in the future toward participant balances, and those contributions may be made subject to vesting. To date, no such contributions have been made. Amounts may be withdrawn or distributed from the Deferred Compensation Plan II through pre-scheduled payments or upon death, retirement, disability, separation from service or a change in control of Synopsys, as elected in advance by the plan participant in accordance with the terms of the plan. Payments may be made in the form of a lump sum payment or installments.

The following table provides certain information regarding our NEOs' participation under the Deferred Compensation Plans I and II:

Name	Executive Contributions in Fiscal 2018 (\$)(1)	Synopsys, Inc. Contributions in Fiscal 2018 (\$)	Aggregate Earnings in Fiscal 2018 (\$)(2)	Aggregate Withdrawals/ Distributions in Fiscal 2018 (\$)	Aggregate Balance at End of Fiscal 2018 (\$)
Aart J. de Geus	\$ —	\$ —	\$ —	\$ —	\$ —
Chi-Foon Chan	—	—	300,277(3)	—	7,370,847(4)
Trac Pham	678,668(5)	—	9,145(6)	—	3,279,513(7)
Joseph W. Logan	—	—	—	—	—
John F. Runkel, Jr.	461,879(5)	—	72,270(6)	—	1,087,188(8)

- (1) All contributions in fiscal 2018 were made under the Deferred Compensation Plan II.
- (2) Earnings from these investments are not reported as compensation in the Summary Compensation Table on page 53.
- (3) All of these aggregate earnings were accrued under the Deferred Compensation Plan I.

- (4) The entire aggregate balance was subject to the Deferred Compensation Plan I and did not include any compensation reported in the Summary Compensation Table.
- (5) Consists of cash incentive compensation reported in the Summary Compensation Table under the “Non-Equity Incentive Plan Compensation” column for services performed in fiscal 2017 though paid in fiscal 2018.
- (6) All of these aggregate earnings were accrued under the Deferred Compensation Plan II.
- (7) Includes (a) \$678,668 of cash incentive compensation reported in the Summary Compensation Table for services performed in fiscal 2017 though paid in fiscal 2018, (b) \$511,784 of cash incentive compensation reported in the Summary Compensation Table for services performed in fiscal 2016 though paid in fiscal 2017, and (c) \$451,143 of cash incentive compensation reported in the Summary Compensation Table for services performed in fiscal 2015 though paid in fiscal 2016. The entire aggregate balance at the end of fiscal 2018 was subject to the Deferred Compensation Plan II.
- (8) Includes (a) \$461,879 of cash incentive compensation reported in the Summary Compensation Table for services performed in fiscal 2017 though paid in fiscal 2018, (b) \$182,070 of cash incentive compensation reported in the Summary Compensation Table for services performed in fiscal 2016 though paid in fiscal 2017, and (c) \$202,150 of cash incentive compensation reported in the Summary Compensation Table for services performed in fiscal 2015 though paid in fiscal 2016. The entire aggregate balance at the end of fiscal 2018 was subject to the Deferred Compensation Plan II.

Potential Payments Upon Termination of Employment or Change of Control

Set forth below is a description of potential payments to our NEOs upon a termination of employment or a change of control. For additional information regarding the arrangements for such payments, please also refer to the "Severance and Change of Control Benefits" discussion in the "Compensation Discussion and Analysis" section beginning on page 42.

Potential Payments upon Involuntary Termination of Employment in Connection with a Change of Control

The table below outlines the potential payments and benefits payable to each NEO in the event of the NEO's involuntary termination in connection with a change in control of Synopsys, as if the involuntary termination in connection with a change of control had occurred as of November 3, 2018, the last day of fiscal 2018. The payments set forth below are payable to: (1) Dr. de Geus and Dr. Chan pursuant to their employment agreements; and (2) Mr. Pham, Mr. Logan, and Mr. Runkel, in their capacity as executive officers, pursuant to the Executive Change of Control Severance Benefit Plan as in effect on the last day of fiscal 2018.

In the event of an involuntary termination of their respective employment other than for cause within 24 months following a change of control of Synopsys, Dr. de Geus and Dr. Chan are each entitled to receive: (1) a lump-sum cash payment equal to two times his salary for the current fiscal year or the immediately preceding fiscal year, whichever is greater; (2) a lump-sum cash payment equal to two times his target cash incentive payment for the current fiscal year or, if there is no target cash incentive payment in effect for the current fiscal year, the highest target cash incentive payment in the preceding three fiscal years; (3) the estimated cash value of his health care premiums for 18 months, payable in a lump sum; and (4) full acceleration of all unvested stock options and other equity awards. Dr. de Geus and Dr. Chan must sign a release in order to receive benefits should a qualifying termination occur. Pursuant to their respective employment agreements, no benefits are paid if the employment termination is voluntary or for cause.

Mr. Pham, Mr. Logan, and Mr. Runkel participate in the Executive Change of Control Severance Benefit Plan, which provides for benefits if the executive's employment with us is terminated without cause within 30 days before or 12 months after a change of control or there is a constructive termination of the executive's employment within 12 months after a change of control. The benefits consist of: (1) a cash severance payment equal to one year of salary, payable in four equal quarterly payments; (2) one to two times the executive's target cash incentive payment, depending upon the timing of the termination within our fiscal year, payable in four equal quarterly payments; (3) a lump-sum cash payment equal to the estimated cost of health care premiums for 12 months; and (4) full acceleration of all unvested stock options and other equity awards held by the executive at the time of termination. An executive must sign a severance agreement and a release and, upon the written request of Synopsys or the surviving corporation in the change of control, enter into an 18-month non-competition agreement in order to receive benefits should a qualifying termination occur. The plan does not provide any benefits if the executive's employment termination is voluntary or for cause.

Name	Salary-Based Severance	Cash-Based Incentive Award	Health and Welfare Benefit	Intrinsic Value of Unvested RSU Awards(1)	Intrinsic Value of Unvested Option Awards(1)
Aart J. de Geus	\$ 1,050,000	\$ 2,520,000	\$ 30,607	\$ 6,676,877	\$ 5,730,113
Chi-Foon Chan	1,050,000	2,520,000	22,055	6,676,877	5,730,113
Trac Pham	425,000	765,000(2)	17,817	2,574,402	1,878,751
Joseph W. Logan	440,000	1,320,000(2)	27,064	3,288,284	2,928,033
John F. Runkel, Jr.	375,000	525,000(2)	17,817	1,380,656	1,242,216

- (1) Amounts represent the intrinsic value of accelerated restricted stock units and stock options based upon the closing price per share of our common stock on November 2, 2018, the last trading day of fiscal 2018, of \$89.56 as reported on the Nasdaq Global Select Market.
- (2) The last day of our fiscal 2018 was Saturday, November 3, 2018. The Executive Change of Control Severance Benefit Plan provides for participants to receive their target cash incentive payment plus a prorated portion of such payment based on the number of days the participant has served during the fiscal year by the time the termination occurs. Accordingly, for purposes of determining the amount of the cash-based incentive awards payable to Mr. Pham, Mr. Logan, and Mr. Runkel in the event of their terminations in

connection with a change of control as of November 3, 2018, each would be entitled to two times his target cash incentive payment, given that each would have worked the entirety of fiscal 2018 as of such date.

Potential Payments upon a Change of Control

Pursuant to our equity plans, all of our employees receive full acceleration of the vesting of any unvested stock options or stock awards in the event that such equity awards are not assumed, continued or substituted by the surviving or acquiring company following a change of control of Synopsys. The table below outlines the potential payments and benefits payable to each NEO in the event of a change in control of Synopsys in which equity awards are not assumed, continued or substituted, as if the change of control had occurred as of November 3, 2018, the last day of fiscal 2018. Vesting acceleration of equity awards if such equity awards are not assumed, continued or substituted is the only benefit provided to our NEOs in the event of a change of control in which the executive is not involuntarily terminated.

Name	Salary-Based Severance	Cash-Based Incentive Award	Health and Welfare Benefit	Intrinsic Value of Unvested RSU Awards(1)	Intrinsic Value of Unvested Option Awards(1)
Aart J. de Geus	\$ —	\$ —	\$ —	\$ 6,676,877	\$ 5,730,113
Chi-Foon Chan	—	—	—	6,676,877	5,730,113
Trac Pham	—	—	—	2,574,402	1,878,751
Joseph W. Logan	—	—	—	3,288,284	2,928,033
John F. Runkel, Jr.	—	—	—	1,380,656	1,242,216

- (1) Amounts represent the intrinsic value of accelerated restricted stock units and stock options based upon the closing price per share of our common stock on November 2, 2018, the last trading day of fiscal 2018, of \$89.56 as reported on the NASDAQ Global Select Market.

Potential Payments upon Involuntary Termination of Employment

Dr. de Geus and Dr. Chan are the only NEOs who are entitled to severance benefits in the event their employment is involuntarily terminated not in connection with a change of control. No benefits are paid if their termination is for cause or is a voluntary termination without good reason. “Cause” and “good reason” are defined in Dr. de Geus and Dr. Chan’s respective employment agreements. The table below outlines the potential amounts payable to each NEO in the event of such an involuntary termination, as if such event had occurred as of November 3, 2018, the last day of fiscal 2018. Pursuant to their respective employment agreements, Dr. de Geus and Dr. Chan would each receive: (1) a lump-sum cash payment equal to his salary during the fiscal year or immediately preceding fiscal year, whichever is greater; (2) a lump-sum cash payment equal to the target cash incentive payment then in effect or, if there is no target cash incentive payment in effect for such year, the highest target cash incentive payment in the three preceding years; and (3) the estimated cash value of his health care premiums for 12 months, payable in a lump sum. Dr. de Geus and Dr. Chan must sign a release in order to receive benefits should a qualifying termination occur.

Name	Salary-Based Severance	Cash-Based Incentive Award	Health and Welfare Benefit	Intrinsic Value of Unvested Stock Awards(1)	Intrinsic Value of Unvested Option Awards(1)
Aart J. de Geus	\$ 525,000	\$ 1,260,000	\$ 6,905	\$ —	\$ —
Chi-Foon Chan	525,000	1,260,000	14,687	—	—
Trac Pham	—	—	—	—	—
Joseph W. Logan	—	—	—	—	—
John F. Runkel, Jr.	—	—	—	—	—

Pay Ratio Disclosure

In accordance with SEC rules, Synopsys is providing the following information about the relationship of the annual total compensation of its employees (other than its co-CEOs) to the annual total compensation of Synopsys' co-CEOs.

This disclosure should be considered within the context of Synopsys' structure and operations. Although our headquarters are located in California, we have employees in 30 countries. As of the end of fiscal 2018, nearly 65% of our employees were based outside of the United States. Our Compensation Committee has designed our executive compensation program to provide competitive and internally equitable compensation and benefits opportunities for all employees. Synopsys' general employee compensation program is designed separately from the executive officer compensation program to be competitive based on an employee's position and geographic location.

CEO Pay Ratio

For fiscal 2018:

- The annual total compensation of our median employee in fiscal 2018 was \$92,995, and was calculated by totaling for our median employee all applicable elements of compensation for fiscal 2018 in accordance with Item 402(c)(2)(x) of Regulation S-K.
- The annual total compensation of Drs. de Geus and Chan was \$7,432,836 and \$7,433,124, respectively, which amounts represent the total compensation reported for each co-CEO under the "Summary Compensation Table" for fiscal 2018.

Based on the above, the ratio of the annual total compensation of each of our co-CEOs to the annual total compensation of our median employee for fiscal 2018 is estimated to be 80 to 1.

Assumptions and Methodology

Synopsys selected November 3, 2018, the last day of fiscal 2018, as the date on which to determine its median employee. As of that date, Synopsys and its consolidated subsidiaries had approximately 13,683 employees (other than its co-CEOs), including full-time employees, part-time employees, defined-term employees and interns. For purposes of identifying the median employee, we estimated the following elements of compensation for each employee, which in the aggregate represents the consistently applied compensation measure that we used for our pay ratio determination:

- Base salary or base pay for fiscal 2018;
- Target annual cash incentive compensation for fiscal 2018; and
- Grant date fair value of equity awards granted in fiscal 2018.

Synopsys selected this consistently applied compensation measure because it reflects the company's primary compensation elements across the employee population. For purposes of identifying the median employee, any compensation paid in foreign currencies was converted to U.S. dollars based on the average of the monthly exchange rates for the twelve-month period ended November 3, 2018. In identifying the median employee, we did not make any cost-of-living adjustments in accordance with Item 402(u) of Regulation S-K.

A portion of our employee workforce identified above, including both full-time and part-time employees, worked for less than the full fiscal year due to commencing employment after the beginning of fiscal 2018 or taking an unpaid leave of absence during fiscal 2018. In determining the median employee, we annualized the total compensation of such individuals who were permanent employees of Synopsys based on reasonable assumptions and estimates relating to our employee compensation program.

The median employee first identified using the assumptions and methodology outlined above had anomalous compensation characteristics in fiscal 2018. As a result, we instead chose a non-U.S. employee one position below the original median employee with substantially similar compensation in fiscal 2018 (based on the consistently applied compensation measure described above), which we consider to be more representative of the median employee.

The pay ratio reported above is a reasonable estimate calculated in a manner consistent with and utilizing SEC rules based on our internal records and the company-specific methodology described above.

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

Equity Compensation Plan Information

The following table provides information regarding our equity compensation plans as of November 3, 2018.

Plan Category	Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights(1)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights(2)	Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans(3)
Equity Compensation Plans Approved by Stockholders	9,564(4)	\$ 57.12	23,754(5)
Equity Compensation Plans Not Approved by Stockholders(6)	—	—	—
Total	9,564	\$ 57.12	23,754

- (1) Number of securities in thousands.
- (2) The weighted-average exercise price does not include outstanding restricted stock units, which have no exercise price.
- (3) Number of securities in thousands. These numbers exclude the shares listed under the column heading "Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights."
- (4) Includes (a) 3.6 million shares of common stock issuable upon vesting of restricted stock units under the 2006 Employee Plan and vesting of restricted stock awards under the 2017 Non-Employee Directors Equity Incentive Plan, and (b) 5.9 million shares of common stock issuable upon exercise of outstanding stock options granted under the 2006 Employee Plan and the 2017 Non-Employee Directors Equity Incentive Plan.
- (5) Comprised of (a) 12.5 million shares remaining available for issuance under the 2006 Employee Plan, (b) 0.4 million shares remaining available for issuance under the 2017 Non-Employee Directors Equity Incentive Plan, and (c) 10.9 million shares remaining available for issuance under the Employee Stock Purchase Plan as of November 3, 2018.
- (6) Does not include 0.4 million shares of common stock issuable upon exercise of outstanding stock options, with a weighted-average exercise price of \$30.74 per share, under various plans assumed in connection with acquisitions of other companies. No shares remain available for future issuance under these acquired plans.

Proposal 4 — Ratification of Selection of Independent Registered Public Accounting Firm

The Audit Committee of our Board of Directors has selected KPMG LLP, an independent registered public accounting firm, to audit our consolidated financial statements for fiscal 2019. KPMG LLP has audited our consolidated financial statements since fiscal 1992. As a matter of good corporate governance, we are asking our stockholders to ratify the Audit Committee's selection of KPMG LLP as our independent registered public accounting firm for fiscal 2019.

We expect that a KPMG LLP representative will be present at the Annual Meeting, will have the opportunity to make a statement if he or she desires to do so, and will be available to respond to appropriate questions.

Ratification of the selection of KPMG LLP requires that the holders of a majority of the shares present in person or represented by proxy and entitled to vote at the Annual Meeting, and voting on this Proposal 4, vote "For" this Proposal 4. Abstentions will not be counted as either votes cast "For" or "Against" this Proposal 4. Discretionary votes by brokers, banks and related agents on this routine proposal will be counted towards the quorum requirement and will affect the outcome of the vote.

Stockholder ratification of the appointment of KPMG LLP as our independent registered public accounting firm is not required by our Bylaws or otherwise. Nevertheless, our Board of Directors is submitting the selection of KPMG LLP to our stockholders for ratification. If our stockholders do not ratify the selection, the Audit Committee will reconsider whether or not to retain KPMG LLP. Even if the selection is ratified, the Audit Committee in its discretion may direct the selection of a different independent registered public accounting firm at any time if they determine that such a change would be in the best interests of Synopsys and our stockholders.

Our Board of Directors Recommends that You Vote FOR the Ratification of the Selection of KPMG LLP to Serve as Our Independent Registered Public Accounting Firm for Fiscal 2019

Fees and Services of Independent Registered Public Accounting Firm

The following table presents fees for professional audit services rendered by KPMG LLP for the audit of our annual financial statements and fees billed for all other services rendered by KPMG LLP during the following fiscal years.

	Fiscal Year Ended	
	Nov. 3, 2018 (in thousands)	Oct. 28, 2017 (in thousands)
Audit fees(1)	\$ 4,715	\$ 2,970
Audit-related fees(2)	30	836
Tax fees(3)	74	78
All other fees	—	—
Total fees	\$ 4,819	\$ 3,884

- (1) Audit fees consist of fees for the audit of Synopsys' consolidated financial statements in our Annual Report on Form 10-K, review of Synopsys' interim condensed consolidated financial statements in each of our Quarterly Reports on Form 10-Q, and services that are normally provided by KPMG LLP in connection with statutory and regulatory filings or engagements.

In fiscal 2018, audit fees also include fees related to the audit of Synopsys' (a) adoption of new revenue recognition requirements pursuant to FASB ASC Topic 606 (*Revenue from Contracts with Customers*), (b) adoption of certain provisions of the Tax Cut and Jobs Act of 2017, and (c) tax restructuring implementation.

- (2) Audit-related fees consist of fees for assurance and related services that are reasonably related to the performance of the audit or review of Synopsys' consolidated financial statements and not reported under "audit fees". In fiscal 2017, audit-related fees include fees primarily related to due diligence services performed in connection with acquisitions.

- (3) Tax fees consist of fees for professional services for tax compliance, tax advice and tax planning. This category includes fees primarily related to assistance with international tax compliance services pertaining to certain foreign subsidiaries.

Audit Committee Pre-Approval Policies and Procedures

As required by Section 10A(i)(1) of the Exchange Act, all audit and non-audit services to be performed by our independent registered public accounting firm must be approved in advance by the Audit Committee, subject to certain exceptions relating to non-audit services accounting for less than five percent of the total fees paid to our independent registered public accounting firm which are subsequently ratified by the Audit Committee (referred to in this Proposal 4 as the De Minimis Exception). In addition, pursuant to Section 10A(i)(3) of the Exchange Act, as amended, the Audit Committee has established procedures by which the Chairperson of the Audit Committee may pre-approve such services, provided the Chairperson subsequently reports the details of the services to the full Audit Committee. All audit-related fees and tax fees, as described in the table above, were approved by the Audit Committee.

Audit Committee Report*

As more fully described in its written charter, the Audit Committee acts on behalf of the Board to perform financial oversight responsibilities relating to (1) the integrity of Synopsys' financial statements, financial reporting processes and systems of internal accounting and financial controls, (2) Synopsys' internal audit function, which reports to the Audit Committee and management and is responsible for independently and objectively assessing Synopsys' financial and business processes and controls, including controls related to the integrity and reliability of financial information, (3) the annual independent audit of Synopsys' financial statements, (4) the engagement of Synopsys' independent registered public accounting firm and evaluation of their performance and independence, (5) compliance with legal and regulatory requirements that pertain to Synopsys' financial statements, internal controls over financial reporting, and disclosure controls, and (6) evaluation of enterprise risk issues. The Audit Committee has the authority to retain, at Synopsys' expense, special legal, accounting or other advisors or consultants as it deems necessary or appropriate in the performance of its duties. It also has the authority to require that any of Synopsys' personnel, counsel, independent auditors or investment bankers, or other Synopsys advisors, attend any meeting of the Audit Committee or meet with any member of the Audit Committee or any of its consultants.

In fiscal 2018, the Audit Committee was composed of three non-employee directors, each considered independent under the applicable requirements of the Securities and Exchange Commission and the listing standards of the Nasdaq Global Select Market. In addition, the Board has determined that Ms. Johnson, Mr. Vallee and Mr. Walske each qualifies as an "audit committee financial expert" within the meaning of the regulations of the Securities and Exchange Commission.

The Audit Committee's function is not intended to duplicate or certify the actions of management or Synopsys' independent auditors. Management is responsible for the preparation, presentation, and integrity of Synopsys' financial statements and the effectiveness of Synopsys' internal control over financial reporting. Synopsys' independent auditors are responsible for expressing an opinion as to the conformity of Synopsys' consolidated financial statements with generally accepted accounting principles and as to the effectiveness of Synopsys' internal control over financial reporting. The Audit Committee provides Board-level oversight, advising and directing management and the independent auditors on the basis of the information presented to the Audit Committee, the Audit Committee's discussions with management and the auditors, and the Audit Committee members' business and financial experience.

The Audit Committee met nine times during fiscal 2018. Its agenda included reviewing Synopsys' financial statements, internal control over financial reporting, and audit and other matters. The Audit Committee met with Synopsys' internal auditors and independent auditors, with and without management present, to discuss the scope, plan, status, and results of their respective audits. In addition, the Audit Committee met with management and the independent auditors each quarter to review Synopsys' interim financial results and quarterly earnings press releases prior to their issuance. The Audit Committee also reviewed Synopsys' Quarterly Reports on Form 10-Q and Annual Report on Form 10-K prior to their filing with the Securities and Exchange Commission. At quarterly meetings, the Audit Committee reviewed and discussed with management, and management gave presentations regarding, Synopsys' financial reporting and controls, investments, financing activities, taxes, insurance, and information technology and data security, and related risks, as well as other topics with potential significant financial impact. The Audit Committee also reviewed and discussed with management the adoption of the new revenue recognition accounting standard, which is effective for Synopsys on November 4, 2018. The Audit Committee oversaw Synopsys' anonymous and confidential ethics reporting system, which encourages and allows employees to submit concerns directly to senior management and the Audit Committee.

* This report shall not constitute "soliciting material," shall not be deemed "filed" with the Securities and Exchange Commission and is not to be incorporated by reference into any of our other filings under the Securities Act of 1933 or the Exchange Act, except to the extent we specifically incorporate this report by reference therein.

Communications with Management and Independent Registered Public Accounting Firm

The Audit Committee has reviewed and discussed our audited financial statements with management. In addition, the Audit Committee has discussed with KPMG LLP, Synopsys' independent registered public accounting firm, the matters required to be discussed by Public Company Accounting Oversight Board (PCAOB) Auditing Standard No. 1301, *Communications with Audit Committees*, which includes, among other items, matters related to the conduct of the audit of our financial statements. The Audit Committee has also received the written disclosures and letter from KPMG LLP required by applicable requirements of the PCAOB regarding KPMG LLP's communications with the Audit Committee concerning independence. The Audit Committee has discussed with KPMG LLP and reviewed KPMG LLP's independence from Synopsys, including whether KPMG LLP's provision of non-audit services was compatible with that independence.

Recommendation Regarding Financial Statements

Based on the review and discussions referred to above, the Audit Committee unanimously recommended to our Board that Synopsys' audited fiscal 2018 financial statements be included in our 2018 Annual Report on Form 10-K.

AUDIT COMMITTEE**

Mercedes Johnson, Chair
Janice D. Chaffin
Roy Vallee
Steven C. Walske

** Steven C. Walske succeeded Janice D. Chaffin as a member of the Audit Committee in December 2018, and thus, did not participate in the discussion to recommend the inclusion of the audited fiscal 2018 financial statements in our 2018 Annual Report on Form 10-K.

Security Ownership of Certain Beneficial Owners and Management

The following table sets forth certain information with respect to the beneficial ownership of our common stock as of February 8, 2019 by (1) each person known by us to beneficially own more than five percent of our common stock outstanding on that date, (2) each of our directors, (3) each of our NEOs, and (4) all of our directors and executive officers as a group. Unless otherwise indicated, each entity or person listed below maintains a mailing address of c/o Synopsys, Inc., 690 East Middlefield Road, Mountain View, California 94043.

Name of Beneficial Owner(1)	Number of Shares of Common Stock Beneficially Owned(2)	Percentage of Outstanding Shares(3)	Additional Information
Entities associated with The Vanguard Group, Inc. 100 Vanguard Blvd. Malvern, PA 19355	16,234,368	10.74%	Based solely on the Schedule 13G/A filed with the Securities and Exchange Commission on February 13, 2019, reporting beneficial ownership as of December 31, 2018. The Vanguard Group has sole dispositive power with respect to 16,013,377 shares, shared dispositive power with respect to 220,991 shares, sole voting power with respect to 173,055 shares, and shared voting power with respect to 46,295 shares.
Entities associated with Blackrock, Inc. 55 E. 52nd Street New York, NY 10055	12,202,354	8.07%	Based solely on the Schedule 13G/A filed with the Securities and Exchange Commission on February 6, 2019, reporting beneficial ownership as of December 31, 2018. Blackrock, Inc. has sole dispositive power with respect to 12,202,354 shares and sole voting power with respect to 10,779,206 shares.
Entities associated with T. Rowe Price Associates, Inc. 100 E. Pratt Street Baltimore, MD 21202	8,301,450	5.49%	Based solely on the Schedule 13G/A filed with the Securities and Exchange Commission on February 14, 2019, reporting beneficial ownership as of December 31, 2018. T. Rowe Price Associates, Inc. has sole dispositive power with respect to 8,301,450 shares and sole voting power with respect to 3,481,397 shares.
Janice D. Chaffin Director	44,063	*	Includes stock options to purchase 34,222 shares exercisable by Ms. Chaffin within 60 days following February 8, 2019. Also includes 2,972 shares of restricted stock that are not vested as of February 8, 2019 and are subject to forfeiture.
Chi-Foon Chan Co-Chief Executive Officer, President and Director	780,428	*	Includes stock options to purchase 566,210 shares exercisable by Dr. Chan within 60 days following February 8, 2019.
Bruce R. Chizen Director	35,381	*	Includes 2,972 shares of restricted stock that are not vested as of February 8, 2019 and are subject to forfeiture.
Aart J. de Geus Co-Chief Executive Officer and Chairman of the Board of Directors	1,273,256	*	Includes stock options to purchase 765,235 shares exercisable by Dr. de Geus within 60 days following February 8, 2019. Also includes 14,500 shares owned by Mora Investment Partners L.P.
Mercedes Johnson Director	20,143	*	Includes stock options to purchase 15,581 shares exercisable by Ms. Johnson within 60 days following February 8, 2019. Also includes 2,109 shares of restricted stock that are not vested as of February 8, 2019 and are subject to forfeiture.
Joseph W. Logan Sales and Corporate Marketing Officer	397,862	*	Includes stock options to purchase 321,733 shares exercisable by Mr. Logan within 60 days following February 8, 2019.
Chrysostomos L. "Max" Nikias Director	22,428	*	Includes 2,972 shares of restricted stock that are not vested as of February 8, 2019 and are subject to forfeiture.
Trac Pham Chief Financial Officer	147,076	*	Includes stock options to purchase 121,734 shares exercisable by Mr. Pham within 60 days following February 8, 2019.

Name of Beneficial Owner(1)	Number of Shares of Common Stock Beneficially Owned(2)	Percentage of Outstanding Shares(3)	Additional Information
John F. Runkel, Jr. General Counsel and Corporate Secretary	74,338	*	Includes stock options to purchase 57,143 shares exercisable by Mr. Runkel within 60 days following February 8, 2019.
John Schwarz Director	17,459	*	Includes 2,972 shares of restricted stock that are not vested as of February 8, 2019 and are subject to forfeiture.
Roy Vallee Director	62,381	*	Includes 2,972 shares of restricted stock that are not vested as of February 8, 2019 and are subject to forfeiture.
Steven C. Walske Director	17,097	*	Includes 2,972 shares of restricted stock that are not vested as of February 8, 2019 and are subject to forfeiture.
All directors and executive officers as a group (12 persons)	2,891,912	1.91%	Includes stock options to purchase 1,881,858 shares exercisable by all directors and executive officers within 60 days following February 8, 2019. Also includes 19,941 shares of restricted stock that are not vested as of February 8, 2019 and are subject to forfeiture.

* Less than 1%

- (1) Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission and generally includes voting or investment power with respect to securities. Except as indicated in the "Additional Information" column, and subject to community property laws where applicable, we believe, based on information furnished by such persons and from Schedules 13D and 13G filed with the Securities and Exchange Commission, that the persons named in the table above have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them as of February 8, 2019.
- (2) In the Proxy Statement for our 2018 Annual Meeting of Stockholders, we inadvertently overstated the number of shares of common stock beneficially held by certain of our non-employee directors. For each non-employee director, the number of shares was overstated by 5,075, except for Ms. Johnson, for whom the number of shares was overstated by 2,453. The correct figures as of February 9, 2018 were 41,954 shares for Ms. Chaffin, 33,272 shares for Mr. Chizen, 17,755 shares for Ms. Johnson, 20,319 shares for Dr. Nikias, 19,324 shares for Mr. Schwarz, 60,272 shares for Mr. Vallee, and 14,988 shares for Mr. Walske.
- (3) Percentage of beneficial ownership is based on 151,177,569 shares of common stock outstanding as of February 8, 2019, adjusted as required by Securities and Exchange Commission rules. Shares of common stock that are subject to stock options or other convertible securities currently issuable or issuable into shares of common stock within 60 days of February 8, 2019, are deemed outstanding for the purposes of computing the percentage ownership of the person holding these stock options or convertible securities, but are not deemed outstanding for computing the percentage ownership of any other person.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires our directors, executive officers and greater than ten percent beneficial owners of our common stock to file reports of ownership and changes in ownership with the Securities and Exchange Commission. Directors, executive officers and greater than ten percent stockholders are required by the rules and regulations of the Securities and Exchange Commission to furnish us with copies of all Section 16(a) reports they file.

Based solely on our review of the copies of the Forms 3, 4 and 5 filed by or received from our reporting persons (or written representations received from such persons), we believe that all of the Section 16 filing requirements were satisfied during fiscal 2018.

About the Annual Meeting

Why did I receive a notice about Synopsys, Inc.'s proxy materials?

Since you owned common stock of Synopsys, Inc. at the close of business on February 8, 2019, the Record Date, you are considered a stockholder. Our Board of Directors is soliciting proxies for the Annual Meeting. Accordingly, we are providing you with access to our proxy materials in order to solicit your vote at the Annual Meeting.

The Notice of Internet Availability of Proxy Materials, this Proxy Statement, the accompanying proxy card or voting instruction form and our 2018 Annual Report on Form 10-K were distributed and made available on or about February 22, 2019.

Why did I receive a two-page notice instead of the proxy materials themselves, and how can I get the materials?

We are pleased to continue to take advantage of the Securities and Exchange Commission rule that allows companies to furnish proxy materials to their stockholders over the Internet. As a result, we are mailing to most of our stockholders a two-page Notice of Availability of Proxy Materials instead of a printed copy of all of the proxy materials.

The Notice of Availability of Proxy Materials you received provides instructions on how to access our proxy materials and submit your vote on the Internet and also instructs you on how to request a printed copy of our proxy materials. We believe this process of sending a two-page notice reduces the environmental impact of printing and distributing hard copy materials and lowers our costs.

Why did I receive a full set of proxy materials in the mail instead of a two-page notice?

If you previously requested printed copies of the proxy materials, we have provided you with printed copies of the proxy materials instead of a two-page Notice of Availability of Proxy Materials. If you would like to reduce the environmental impact and the costs incurred by us in mailing proxy materials, you may elect to receive all future proxy materials electronically via email or the Internet.

To sign up for electronic delivery, please follow the instructions to vote using the Internet provided with your proxy materials and on your proxy card or voting instruction form, and, when prompted, indicate that you agree to receive or access stockholder communications electronically in the future.

What proposals will be presented at the Annual Meeting and what are the voting recommendations of the Board of Directors?

The proposals that will be presented at the Annual Meeting and our Board's voting recommendations are set forth in the table below:

Proposal	Board's Voting Recommendation
1. To elect nine directors nominated by our Board of Directors to hold office until the next annual meeting of stockholders or until their successors have been elected	FOR all nominees
2. To approve our 2006 Employee Equity Incentive Plan, as amended, in order to, among other items, increase the number of shares available for issuance under the plan by 3,200,000 shares	FOR
3. To approve, on an advisory basis, the compensation of our named executive officers, as disclosed in the Proxy Statement	FOR
4. To ratify the selection of KPMG LLP as our independent registered public accounting firm for the fiscal year ending November 2, 2019	FOR

We will also consider any other business that properly comes before the Annual Meeting or any adjournment or postponement thereof. As of the Record Date, we are not aware of any other matters to be submitted for consideration at the Annual Meeting. If any other matters are properly brought before the

meeting, the persons named in the enclosed proxy card or voting instruction form will vote the shares they represent using their best judgment.

When and where will the Annual Meeting be held?

The Annual Meeting will be held on April 8, 2019, at 8:00 a.m. Pacific Time at our office located at 1030 West Maude Avenue, Sunnyvale, California 94085. A map and directions are provided on the back of this Proxy Statement.

How can I attend the Annual Meeting?

You will be admitted to the Annual Meeting if you were a Synopsys stockholder or joint holder as of the close of business on February 8, 2019, or you have authority to vote under a valid proxy for the Annual Meeting.

You should be prepared to present photo identification for admittance. In addition, if you are a stockholder of record, your name will be verified against the list of stockholders of record prior to admittance to the Annual Meeting. If you are a beneficial owner, you should provide proof of beneficial ownership on the Record Date, such as an account statement covering February 8, 2019, a copy of the voting instruction form provided by your broker, trustee, or nominee, or other similar evidence of ownership. If you are a stockholder who is a natural person and not an entity, you and your immediate family members will be admitted to the Annual Meeting, provided you and they comply with the above procedures.

Who can vote?

If you are a stockholder of record or a beneficial owner who owned our common stock at the close of business on the Record Date of February 8, 2019, you are entitled to attend and vote at the Annual Meeting. For further details on how to vote, please see the questions below.

As of the Record Date, 149,295,711 shares of our common stock were outstanding and entitled to vote. You are entitled to one vote for each share of common stock you held on the Record Date. The names of stockholders of record entitled to vote at the Annual Meeting will be available to stockholders entitled to vote for ten days prior to the Annual Meeting for any purpose relevant to the Annual Meeting. This list can be viewed between the hours of 9:00 a.m. and 5:00 p.m. Pacific Time at our principal executive offices at 690 East Middlefield Road, Mountain View, California 94043.

Whether or not you plan to attend the Annual Meeting, we urge you to submit your proxy.

What is the difference between a stockholder of record and a beneficial owner?

- **Stockholder of Record:** If on the Record Date your shares were registered directly in your name with our transfer agent, Computershare Investor Services, then you are a stockholder of record.
- **Beneficial Owner:** If on the Record Date your shares were held through a broker, bank, or other agent and not in your name, then you are the beneficial owner of our common stock. If you are a beneficial owner, your shares are held in street name, as is the case for most of our stockholders.

How can I vote if I am a stockholder of record?

There are four ways to vote:

- **In person.** If you are a stockholder of record, you may vote in person at the Annual Meeting. We will provide a ballot to you when you arrive.
- **Via the Internet.** You may vote by proxy via the Internet by following the instructions provided in the proxy card or Notice of Availability of Proxy Materials.
- **By Telephone.** If you received printed copies of the proxy materials, you may vote by proxy by calling the toll free number found on the proxy card. If you only received a Notice of Availability of Proxy Materials and wish to vote by proxy over the telephone, you may do so by first requesting

printed copies of the proxy materials by mail by following the instructions in the Notice of Availability of Proxy Materials and then calling the toll free number found on the proxy card.

- **By Mail.** If you received printed copies of the proxy materials, you may vote by proxy by filling out the proxy card and sending it back in the envelope provided. If you only received a Notice of Availability of Proxy Materials and wish to vote by proxy via mail, you may do so by first requesting printed copies of the proxy materials by mail by following the instructions in the Notice of Availability of Proxy Materials and then filling out the proxy card and sending it back in the envelope provided.

Whether or not you plan to attend the meeting, we urge you to vote by proxy.

How can I vote if I am the beneficial owner?

There are four ways to vote:

- **In person.** If you are a beneficial owner and you wish to vote in person at the Annual Meeting, you must obtain a legal proxy from the organization that holds your shares. Please contact that organization for instructions regarding obtaining a legal proxy.
- **Via the Internet.** You may vote by proxy via the Internet by following the instructions provided in the voting instruction form or Notice of Availability of Proxy Materials.
- **By Telephone.** If you received printed copies of the proxy materials, you may vote by proxy by calling the toll free number found on the voting instruction form. If you only received a Notice of Availability of Proxy Materials and wish to vote by proxy over the telephone, you may do so by first requesting printed copies of the proxy materials by mail by following the instructions in the Notice of Availability of Proxy Materials and then calling the toll free number found on the voting instruction form.
- **By Mail.** If you received printed copies of the proxy materials, you may vote by proxy by filling out the voting instruction form and sending it back in the envelope provided. If you only received a Notice of Availability of Proxy Materials and wish to vote by proxy via mail, you may do so by first requesting printed copies of the proxy materials by mail by following the instructions in the Notice of Availability of Proxy Materials and then filling out the voting instruction form and sending it back in the envelope provided.

As a beneficial owner, you are also invited to attend the Annual Meeting. However, since you are not a stockholder of record, you may not vote your shares in person at the Annual Meeting unless you request and obtain a legal proxy from the organization that holds your shares.

What votes can I cast for the proposals?

- **Proposal 1.** You may either vote “For” all the nominees to our Board of Directors or you may “Withhold” your vote for any nominee you specify.
- **Proposals 2, 3, and 4.** You may vote “For” or “Against,” or “Abstain” from voting. An abstention will not be counted as either a vote cast “For” or “Against.”

What if I don’t give specific voting instructions?

If you indicate a choice on your proxy on a particular matter to be acted upon, the shares will be voted as indicated. If you are a stockholder of record and you return a signed proxy card but do not indicate how you wish to vote, the proxy holders will vote your shares in the manner recommended by our Board of Directors on all matters presented in this Proxy Statement and as the proxy holders may determine in their discretion with respect to any other matters properly presented for a vote at the Annual Meeting. If you do not return the proxy card, your shares will not be voted and will not be deemed present for the purpose of determining whether a quorum exists.

If you are a beneficial owner and the organization holding your account does not receive instructions from you as to how to vote those shares, under the rules of various national and regional securities exchanges,

that organization may exercise discretionary authority to vote on routine proposals but may not vote on non-routine proposals. As a beneficial owner, you will not be deemed to have voted on such non-routine proposals. The shares that cannot be voted by brokers on non-routine matters are called broker non-votes. Under applicable state law, broker non-votes will be deemed present at the Annual Meeting for purposes of determining whether a quorum exists for the Annual Meeting. Broker non-votes will make a quorum more readily obtainable but will not otherwise affect the outcome of the vote of any proposal.

Which proposals in this Proxy Statement are considered “routine” or “non-routine”?

The ratification of the appointment of KPMG LLP as our independent registered public accounting firm for fiscal 2019 (Proposal 4) is a matter considered routine under applicable rules. A broker or other nominee may generally vote on routine matters, and therefore no broker non-votes are expected to exist in connection with Proposal 4.

The election of directors (Proposal 1), the proposal to approve our 2006 Employee Equity Incentive Plan, as amended (Proposal 2), and the advisory vote to approve executive compensation (Proposal 3) are matters considered non-routine under applicable rules. A broker or other nominee cannot vote without instructions on non-routine matters, and therefore there may be broker non-votes on Proposals 1, 2, and 3.

What if I change my mind and want to revoke my proxy?

If you are a stockholder of record, you may revoke your proxy at any time before the Annual Meeting by delivering a written notice of revocation or a duly executed proxy card bearing a later date to our principal executive offices at 690 East Middlefield Road, Mountain View, California 94043, attention Corporate Secretary. Such notice or later dated proxy must be received by us prior to the Annual Meeting. You may also revoke your proxy by attending the Annual Meeting and voting in person.

If you are a beneficial owner, please contact your broker, bank or other agent for instructions on how to revoke your proxy.

What is a quorum?

We need a quorum of stockholders to hold our Annual Meeting. A quorum exists when at least a majority of the outstanding shares entitled to vote as of the Record Date are represented at the Annual Meeting either in person or by proxy. Your shares will be counted towards the quorum only if a valid proxy or vote is submitted. Stockholders who vote “Abstain” on any proposal and discretionary votes by brokers, banks and related agents on routine proposals will be counted towards the quorum requirement.

Who is paying for this solicitation?

Synopsys will bear the cost of soliciting proxies. We have retained D.F. King & Co., Inc. to assist us in soliciting proxies, for which we will pay D.F. King & Co., Inc. a fee of approximately \$11,500 plus out-of-pocket expenses. We will also reimburse brokerage firms and other persons representing beneficial owners of shares for their reasonable expenses in forwarding solicitation material to such beneficial owners. We will furnish copies of solicitation material to such brokerage firms and other representatives. Proxies may also be solicited personally or by telephone, facsimile or email by our directors, officers and employees without additional compensation.

I received notice that communications to my address are being householded. What does that mean?

The Securities and Exchange Commission has adopted rules that permit companies and intermediaries (for example, brokers) to satisfy the delivery requirements for proxy statements and annual reports with respect to two or more stockholders sharing the same address by delivering a single proxy statement or Notice of Availability of Proxy Materials addressed to those stockholders. A number of brokers with account holders who are our stockholders “household” our proxy materials in this manner.

If you have received notice from your broker that it will be householding communications to your address, householding will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in householding and would prefer to receive a separate proxy statement, 2018 Annual Report on Form 10-K or Notice of Availability of Proxy Materials, please notify your broker and our investor relations department in writing at 690 East Middlefield Road, Mountain View, California 94043, by email at invest-info@synopsys.com or by telephone at (650) 584-4257. If you currently receive multiple copies of the Notice of Availability of Proxy Materials or proxy statement at your address and would like to request householding of your communications, please contact your broker, bank or other agent and our investor relations department in the same manner as outlined above.

I also have access to Synopsys, Inc.'s 2018 Annual Report on Form 10-K. Is that a part of the proxy materials?

Our Annual Report on Form 10-K for the fiscal year ended October 31, 2018, as filed with the Securities and Exchange Commission on December 17, 2018, accompanies this Proxy Statement. These documents constitute our Annual Report to Stockholders and are being made available to all stockholders entitled to receive notice of and to vote at the Annual Meeting. Except as otherwise stated, the 2018 Annual Report on Form 10-K is not incorporated into this Proxy Statement and should not be considered proxy solicitation material.

Where can I find the voting results of the meeting?

The preliminary voting results will be announced at the Annual Meeting. The final results will be published in a Current Report on Form 8-K, which we will file with the Securities and Exchange Commission after the Annual Meeting.

How can I make a proposal to be voted on at next year's annual meeting of stockholders?

To be considered for inclusion in the proxy materials for next year's annual meeting of stockholders, your proposal must be submitted in writing by October 25, 2019 to Corporate Secretary, Synopsys, Inc., 690 East Middlefield Road, Mountain View, California 94043, and must comply with all applicable requirements of Rule 14a-8 promulgated under the Securities Exchange Act of 1934, as amended (referred to in this Proxy Statement as the Exchange Act). If you wish to submit a proposal that is not to be included in next year's proxy materials, but that may be considered at the annual meeting of stockholders to be held in 2020, you must do so in writing following the above instructions not earlier than the close of business on September 25, 2019 and not later than the close of business on October 25, 2019. We advise you to review our Bylaws, which contain additional requirements about advance notice of stockholder proposals and director nominations, including the different notice submission date requirements in the event our annual meeting for 2020 is held more than 30 days before or after April 8, 2020. The section titled "Director Nominations" on page 15 of this Proxy Statement provides additional information on the director nomination process.

Other Matters

We know of no other business that will be presented at the Annual Meeting. If any other business is properly brought before the Annual Meeting or any adjournment or postponement thereof, it is intended that proxies in the enclosed form will be voted in accordance with the judgment of the persons voting the proxies.

Whether or not you intend to be present at the Annual Meeting, we urge you to return your signed proxy promptly.

By order of the Board of Directors,



John F. Runkel, Jr.
*General Counsel and
Corporate Secretary*

Dated: February 15, 2019

A copy of our 2018 Annual Report on Form 10-K is available without charge upon written request to Corporate Secretary, Synopsys, Inc., 690 East Middlefield Road, Mountain View, California 94043.

**Important Notice Regarding the Internet Availability of Proxy Materials
for the Annual Meeting to Be Held on April 8, 2019**

The Proxy Statement and our 2018 Annual Report on Form 10-K will be available at <http://materials.proxyvote.com/871607> on or about February 22, 2019.

Appendix A

SYNOPSYS, INC.

2006 EMPLOYEE EQUITY INCENTIVE PLAN

ADOPTED BY THE BOARD OF DIRECTORS: MARCH 3, 2006

APPROVED BY THE STOCKHOLDERS: APRIL 25, 2006

AS AMENDED BY THE BOARD OF DIRECTORS: JANUARY 18, 2019

AMENDMENT TO BE APPROVED BY THE STOCKHOLDERS: APRIL 8, 2019

TERMINATION DATE: APRIL 1, 2026

1. GENERAL.

(a) **Successor and Continuation of Prior Plans.** The Plan is intended as the successor and continuation of the (i) Synopsys, Inc. 1992 Stock Option Plan, (ii) Synopsys, Inc. 1998 Nonstatutory Stock Option Plan, and (iii) Synopsys, Inc. 2005 Assumed Stock Option Plan (collectively, the “**Prior Plans**”). Following the Effective Date, no additional stock awards shall be granted under the Prior Plans. Any shares remaining available for issuance on the Effective Date under the Prior Plans became available for issuance pursuant to Stock Awards granted hereunder. Any shares subject to outstanding stock awards granted under the Prior Plans that expired or terminated for any reason prior to exercise or settlement became available for issuance pursuant to Stock Awards granted hereunder. As of January 12, 2017, no awards remained outstanding under the Prior Plans.

(b) **Eligible Award Recipients.** The persons eligible to receive Awards are Employees and Consultants. Non-employee Directors are not eligible to receive Awards under this Plan.

(c) **Available Awards.** The Plan provides for the grant of the following Stock Awards: (i) Incentive Stock Options, (ii) Nonstatutory Stock Options, (iii) Restricted Stock Awards, (iv) Restricted Stock Unit Awards, (v) Stock Appreciation Rights, (vi) Performance Stock Awards, and (vii) Other Stock Awards. The Plan also provides for the grant of Performance Cash Awards.

(d) **Purpose.** The Company, by means of the Plan, seeks to secure and retain the services of the group of persons eligible to receive Stock Awards as set forth in Section 1(b), to provide incentives for such persons to exert maximum efforts for the success of the Company and any Affiliate and to provide a means by which such eligible recipients may be given an opportunity to benefit from increases in value of the Common Stock through the granting of Stock Awards.

2. DEFINITIONS.

As used in the Plan, the following definitions shall apply to the capitalized terms indicated below:

(a) “**Affiliate**” means (i) any corporation (other than the Company) in an unbroken chain of corporations ending with the Company, provided each corporation in the unbroken chain (other than the Company) owns, at the time of the determination, stock possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other corporations in such chain, and (ii) any corporation (other than the Company) in an unbroken chain of corporations beginning with the Company, provided each corporation (other than the last corporation) in the unbroken chain owns, at the time of the determination, stock possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other corporations in such chain. The Board shall have the authority to determine (i) the time or times at which the ownership tests are applied, and (ii) whether “Affiliate” includes entities other than corporations within the foregoing definition.

(b) “**Award**” means a Stock Award or a Performance Cash Award.

(c) “**Board**” means the Board of Directors of the Company.

(d) “**Capitalization Adjustment**” has the meaning ascribed to that term in Section 9(a).

(e) “**Cause**” means, with respect to a Participant, the occurrence of any of the following: (i) the Participant commits an act of dishonesty in connection with the Participant’s responsibilities as an Employee or Consultant; (ii) the Participant commits a felony or any act of moral turpitude; (iii) the

Participant commits any willful or grossly negligent act that constitutes gross misconduct and/or injures, or is reasonably likely to injure, the Company or any Affiliate; or (iv) the Participant willfully and materially violates (A) any written policies or procedures of the Company or any Affiliate, or (B) the Participant's obligations to the Company or any Affiliate. The determination that a termination is for Cause shall be made by the Company in its sole discretion. Any determination by the Company that the Continuous Service of a Participant was terminated with or without Cause for the purposes of outstanding Awards held by such Participant shall have no effect upon any determination of the rights or obligations of the Company or such Participant for any other purpose.

(f) “**Change in Control**” means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company's then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control shall not be deemed to occur (A) on account of the acquisition of securities of the Company by an investor, any affiliate thereof or any other Exchange Act Person from the Company in a transaction or series of related transactions the primary purpose of which is to obtain financing for the Company through the issuance of equity securities or (B) solely because the level of Ownership held by any Exchange Act Person (the “**Subject Person**”) exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, provided that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control shall be deemed to occur;

(ii) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than fifty percent (50%) of the combined outstanding voting power of the surviving Entity in such merger, consolidation or similar transaction or (B) more than fifty percent (50%) of the combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such transaction;

(iii) the stockholders of the Company approve or the Board approves a plan of complete dissolution or liquidation of the Company, or a complete dissolution or liquidation of the Company shall otherwise occur;

(iv) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; or

(v) individuals who, on the date this Plan is adopted by the Board, are members of the Board (the “**Incumbent Board**”) cease for any reason to constitute at least a majority of the members of the Board; *provided, however*, that if the appointment or election (or nomination for election) of any new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member shall, for purposes of this Plan, be considered as a member of the Incumbent Board.

For avoidance of doubt, the term Change in Control shall not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company.

Notwithstanding the foregoing, to the extent that the Company determines that any of the payments or benefits under this Plan that are payable in connection with a Change in Control constitute deferred compensation under Section 409A that may only be paid on a transaction that meets the standard of Treasury Regulation Section 1.409A-3(a)(5), the foregoing definition of Change in Control shall apply only to the extent the transaction also meets the definition used for purposes of Treasury Regulation Section 1.409A-3(a)(5), that is, as defined under Treasury Regulation Section 1.409A-3(i)(5).

(g) “**Code**” means the Internal Revenue Code of 1986, as amended.

(h) “**Committee**” means a committee of one (1) or more members of the Board to whom authority has been delegated by the Board in accordance with Section 3(c).

(i) “**Common Stock**” means the common stock of the Company.

(j) “**Company**” means Synopsys, Inc., a Delaware corporation.

(k) “**Consultant**” means any person, including an advisor, who is (i) engaged by the Company or an Affiliate to render consulting or advisory services and is compensated for such services, or (ii) serving as a member of the board of directors of an Affiliate and is compensated for such services. However, service solely as a Director, or payment of a fee for such service, shall not cause a Director to be considered a “Consultant” for purposes of the Plan.

(l) “**Continuous Service**” means that the Participant’s service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. For example, a change in the capacity in which the Participant renders service to the Company or an Affiliate from a Consultant to Employee shall not terminate a Participant’s Continuous Service. Furthermore, a change in the entity for which the Participant renders such service, provided that there is no interruption or termination of the Participant’s service with the Company or an Affiliate, shall not terminate a Participant’s Continuous Service. However, if the corporation for which a Participant is rendering service ceases to qualify as an Affiliate, as determined by the Board in its sole discretion, such Participant’s Continuous Service shall be considered to have terminated on the date such corporation ceases to qualify as an Affiliate. A leave of absence shall be treated as Continuous Service for purposes of vesting in an Award to such extent as may be provided in the Company’s leave of absence policy or in the written terms of the Participant’s leave of absence.

(m) “**Corporate Transaction**” means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries;

(ii) a sale or other disposition of at least ninety percent (90%) of the outstanding securities of the Company;

(iii) the consummation of a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) the consummation of a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

Notwithstanding the foregoing, to the extent that the Company determines that any of the payments or benefits under this Plan that are payable in connection with a Corporate Transaction constitute deferred compensation under Section 409A that may only be paid on a transaction that meets the standard of Treasury Regulation Section 1.409A-3(a)(5), the foregoing definition of Corporate Transaction shall apply only to the extent the transaction also meets the definition used for purposes of Treasury Regulation Section 1.409A-3(a)(5), that is, as defined under Treasury Regulation Section 1.409A-3(i)(5).

(n) “**Covered Employee**” has the meaning provided in Section 162(m)(3) of the Code and the regulations promulgated thereunder.

(o) “**Director**” means a member of the Board.

(p) “**Disability**” means, with respect to a Participant, the inability of such Participant to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than twelve (12) months, as provided in Sections 22(e)(3) and 409A(a)(2)(c)(i) of the Code, and shall be determined by the Board on the basis of such medical evidence as the Board deems warranted under the circumstances.

(q) “**Effective Date**” means April 25, 2006, the first date that the Company’s stockholders approved the Plan at the 2006 Annual Meeting of Stockholders.

(r) “**Employee**” means any person employed by the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such services, shall not cause a Director to be considered an “Employee” for purposes of the Plan.

(s) “**Entity**” means a corporation, partnership or other entity.

(t) “**Exchange Act**” means the Securities Exchange Act of 1934, as amended.

(u) “**Exchange Act Person**” means any natural person, Entity or “group” (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that “Exchange Act Person” shall not include (i) the Company or any Subsidiary of the Company, (ii) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (iii) an underwriter temporarily holding securities pursuant to an offering of such securities, (iv) an Entity Owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their Ownership of stock of the Company; or (v) any natural person, Entity or “group” (within the meaning of Section 13(d) or 14(d) of the Exchange Act) that, as of the effective date of the Plan as set forth in Section 12, is the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company’s then outstanding securities.

(v) “**Fair Market Value**” means for purposes of Sections 3(f), 5(b), 5(c), 6(b), 6(c), 6(d)(iv), 7(c)(ii), 7(c)(iii) and 8(d), as of any date, the value of the Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on any market system, the Fair Market Value of a share of Common Stock shall be the closing sales price for such stock (or the closing bid, if no sales were reported) as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the date in question, as reported in The Wall Street Journal or such other source as the Board deems reliable. Unless otherwise provided by the Board, if there is no closing sales price (or closing bid if no sales were reported) for the Common Stock on the date in question, then the Fair Market Value shall be the closing sales price (or closing bid if no sales were reported) on the last preceding date for which such quotation exists.

(ii) In the absence of such markets for the Common Stock, the Fair Market Value shall be determined by the Board in a manner that complies with Sections 409A and 422 of the Code.

(w) “**Incentive Stock Option**” means an Option which qualifies as an incentive stock option within the meaning of Section 422 of the Code and the regulations promulgated thereunder.

(x) “**Non-Employee Director**” means a Director who either (i) is not a current employee or officer of the Company or an Affiliate, does not receive compensation, either directly or indirectly, from the Company or an Affiliate for services rendered as a consultant or in any capacity other than as a Director (except for an amount as to which disclosure would not be required under Item 404(a) of Regulation S-K promulgated pursuant to the Securities Act (“**Regulation S-K**”)), does not possess an interest in any other transaction for which disclosure would be required under Item 404(a) of Regulation S-K, and is not engaged in a business relationship for which disclosure would be required pursuant to Item 404(b) of Regulation S-K; or (ii) is otherwise considered a “non-employee director” for purposes of Rule 16b-3.

(y) “**Nonstatutory Stock Option**” means an Option which does not qualify as an Incentive Stock Option.

(z) “**Officer**” means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.

(aa) “**Option**” means an Incentive Stock Option or a Nonstatutory Stock Option to purchase shares of Common Stock granted pursuant to the Plan.

(bb) “**Option Agreement**” means a written agreement between the Company and an Optionholder evidencing the terms and conditions of an Option grant. Each Option Agreement shall be subject to the terms and conditions of the Plan.

(cc) “**Optionholder**” means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(dd) “**Other Stock Award**” means an award based in whole or in part by reference to the Common Stock which is granted pursuant to the terms and conditions of Section 7(e).

(ee) “**Other Stock Award Agreement**” means a written agreement between the Company and a holder of an Other Stock Award evidencing the terms and conditions of an Other Stock Award grant. Each Other Stock Award Agreement shall be subject to the terms and conditions of the Plan.

(ff) “**Outside Director**” means a Director who either (i) is not a current employee of the Company or an “affiliated corporation” (within the meaning of Treasury Regulations promulgated under Section 162(m) of the Code), is not a former employee of the Company or an “affiliated corporation” who receives compensation for prior services (other than benefits under a tax-qualified retirement plan) during the taxable year, has not been an officer of the Company or an “affiliated corporation,” and does not receive remuneration from the Company or an “affiliated corporation,” either directly or indirectly, in any capacity other than as a Director, or (ii) is otherwise considered an “outside director” for purposes of Section 162(m) of the Code.

(gg) “**Own**,” “**Owned**,” “**Owner**,” “**Ownership**” A person or Entity shall be deemed to “Own,” to have “Owned,” to be the “Owner” of, or to have acquired “Ownership” of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(hh) “**Participant**” means a person to whom an Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Award.

(ii) “**Performance Cash Award**” means an award of cash granted pursuant to the terms and conditions of Section 7(d)(ii).

(jj) “**Performance Criteria**” means one or more criteria that the Board shall select for purposes of establishing the Performance Goals for a Performance Period. The Performance Criteria that shall be used to establish such Performance Goals may be based on any one of, or combination of, the following: (i) earnings per share; (ii) earnings before interest, taxes and depreciation; (iii) earnings before interest, taxes, depreciation and amortization (EBITDA); (iv) net earnings; (v) return on equity; (vi) return on assets, investment, or capital employed; (vii) operating margin and Non-GAAP operating margin; (viii) gross margin; (ix) operating income; (x) net income (before or after taxes); (xi) net operating income; (xii) net operating income after tax; (xiii) pre- and after-tax income; (xiv) pre-tax profit; (xv) operating cash flow; (xvi) orders (including backlog) and revenue; (xvii) orders quality metrics (to the extent consistent with Section 162(m) of the Code, if deductibility is desired); (xviii) increases in revenue or product revenue; (xix) expenses and cost reduction goals; (xx) improvement in or attainment of expense levels; (xxi) improvement in or attainment of working capital levels; (xxii) market share; (xxiii) cash flow; (xxiv) cash flow per share; (xxv) share price performance; (xxvi) debt reduction; (xxvii) implementation or completion of projects or processes (to the extent consistent with Section 162(m) of the Code, if deductibility is desired); (xxviii) customer satisfaction (to the extent consistent with Section 162(m) of the Code, if deductibility is desired); (xxix) stockholders’ equity; (xxx) quality measures (to the extent consistent with Section 162(m) of the Code, if deductibility is desired); (xxxi) Non-GAAP net income; and (xxxii) to the extent that an Award is not intended to comply with Section 162(m) of the Code, any other measures of performance selected by the Board. Non-GAAP measure means the closest GAAP measure excluding (1) the amortization of acquired intangible assets; (2) the impact of stock-based compensation expense; (3) acquisition-related costs; (4) other non-recurring significant items, such as restructuring charges; (5) legal matters; (6) material tax impacts, such as the repatriation of offshore cash; and (7) the income tax effect of non-GAAP pre-tax adjustments from the provision for income taxes, based upon a

normalized annual projected non-GAAP tax rate. Partial achievement of the specified criteria may result in the payment or vesting corresponding to the degree of achievement as specified in the Stock Award Agreement or the written terms of a Performance Cash Award. The Board shall, in its sole discretion, define the manner of calculating the Performance Criteria it selects to use for such Performance Period.

(kk) “**Performance Goals**” means, for a Performance Period, the one or more goals established by the Board for the Performance Period based upon the Performance Criteria. Performance Goals may be set on a Company-wide basis, with respect to one or more business units, divisions, Affiliates, or business segments, and in either absolute terms or relative to internally generated business plans, approved by the Board, the performance of one or more comparable companies or the performance of one or more relevant indices. To the extent consistent with Section 162(m) of the Code and the regulations thereunder, the Board is authorized to make adjustments in the method of calculating the attainment of Performance Goals for a Performance Period as follows: (i) to exclude restructuring and/or other nonrecurring charges (including but not limited to the effect of tax or legal settlements); (ii) to exclude exchange rate effects, as applicable, for non-U.S. dollar denominated net sales and operating earnings; (iii) to exclude the effects of changes to generally accepted accounting standards required by the Financial Accounting Standards Board; (iv) to exclude the effects of any statutory adjustments to corporate tax rates; (v) to exclude stock-based compensation expense determined under generally accepted accounting principles; (vi) to exclude any other unusual or infrequently occurring item (including but not limited to various income tax impacts prompted by tax reform legislation adopted in late 2017, including the income tax related to transition tax, the tax rate change, and tax restructuring; and the tax impact of repatriation); (vii) to respond to, or in anticipation of, any unusual or extraordinary corporate item, transaction, event or development; (viii) to respond to, or in anticipation of, changes in applicable laws, regulations, accounting principles, or business conditions; (ix) to exclude the dilutive effects of acquisitions or joint ventures; (x) to assume that any business divested by the Company achieved performance objectives at targeted levels during the balance of a Performance Period following such divestiture; (xi) to exclude the effect of any change in the outstanding shares of common stock of the Company by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common shareholders other than regular cash dividends; (xii) to reflect a corporate transaction, such as a merger, consolidation, separation (including a spinoff or other distribution of stock or property by a corporation), or reorganization (whether or not such reorganization comes within the definition of such term in Section 368 of the Code); (xiii) to reflect any partial or complete corporate liquidation; (xiv) to exclude the effect of in-process research and development expenses; and (xv) to exclude the income tax effect of non-GAAP pre-tax adjustments from the provision for income taxes. The Board also retains the discretion to reduce or eliminate the compensation or economic benefit due upon attainment of Performance Goals (to the extent consistent with Section 162(m) of the Code, if deductibility is desired).

(ll) “**Performance Period**” means the one or more periods of time, which may be of varying and overlapping durations, as the Committee may select, over which the attainment of one or more Performance Goals will be measured for the purpose of determining a Participant’s right to and the payment of a Performance Stock Award or a Performance Cash Award.

(mm) “**Performance Stock Award**” means either a Restricted Stock Award or a Restricted Stock Unit Award granted pursuant to the terms and conditions of Section 7(d)(i).

(nn) “**Plan**” means this Synopsys, Inc. 2006 Employee Equity Incentive Plan.

(oo) “**Prior Plans**” means the Company’s 1992 Stock Option Plan, 1998 Nonstatutory Stock Option Plan, and 2005 Assumed Stock Option Plan as in effect immediately prior to the Effective Date.

(pp) “**Restricted Stock Award**” means an award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 7(a).

(qq) “**Restricted Stock Award Agreement**” means a written agreement between the Company and a holder of a Restricted Stock Award evidencing the terms and conditions of a Restricted Stock Award grant. Each Restricted Stock Award Agreement shall be subject to the terms and conditions of the Plan.

(rr) “**Restricted Stock Unit Award**” means a right to receive shares of Common Stock which is granted pursuant to the terms and conditions of Section 7(b).

(ss) “**Restricted Stock Unit Award Agreement**” means a written agreement between the Company and a holder of a Restricted Stock Unit Award evidencing the terms and conditions of a Restricted Stock Unit Award grant. Each Restricted Stock Unit Award Agreement shall be subject to the terms and conditions of the Plan.

(tt) “**Rule 16b-3**” means Rule 16b-3 promulgated under the Exchange Act or any successor to Rule 16b-3, as in effect from time to time.

(uu) “**Securities Act**” means the Securities Act of 1933, as amended.

(vv) “**Stock Appreciation Right**” means a right to receive the appreciation on Common Stock that is granted pursuant to the terms and conditions of Section 7(c).

(ww) “**Stock Appreciation Right Agreement**” means a written agreement between the Company and a holder of a Stock Appreciation Right evidencing the terms and conditions of a Stock Appreciation Right grant. Each Stock Appreciation Right Agreement shall be subject to the terms and conditions of the Plan.

(xx) “**Stock Award**” means any right granted under the Plan, including an Option, a Stock Appreciation Right, a Restricted Stock Award, a Restricted Stock Unit Award, a Performance Stock Award, or an Other Stock Award.

(yy) “**Stock Award Agreement**” means a written agreement between the Company and a Participant evidencing the terms and conditions of a Stock Award grant. Each Stock Award Agreement shall be subject to the terms and conditions of the Plan.

(zz) “**Subsidiary**” means, with respect to the Company, (i) any corporation of which more than fifty percent (50%) of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation shall have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than fifty percent (50%).

(aaa) “**Ten Percent Stockholder**” means a person who Owns (or is deemed to Own pursuant to Section 424(d) of the Code) stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or any Affiliate.

3. ADMINISTRATION.

(a) **Administration by Board.** The Board shall administer the Plan unless and until the Board delegates administration of the Plan to a Committee, as provided in Section 3(c).

(b) **Powers of Board.** The Board shall have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To construe and interpret the Plan and Awards granted under it, and to establish, amend and revoke rules and regulations for administration of the Plan and Awards. The Board, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan or in any Stock Award Agreement or in the written terms of a Performance Cash Award, in a manner and to the extent it shall deem necessary or expedient to make the Plan fully effective.

(ii) To determine from time to time (1) which of the persons eligible under the Plan shall be granted Awards; (2) when and how each Award shall be granted; (3) what type or combination of types of Award shall be granted; (4) the provisions of each Award granted (which need not be identical), including the time or times when a person shall be permitted to receive cash or Common Stock pursuant to an Award; and (5) the number of shares of Common Stock with respect to which a Stock Award shall be granted to each such person.

(iii) To accelerate the time at which an Award may be exercised or the time during which an Award or any part thereof will vest in accordance with the Plan, notwithstanding the provisions in the Award stating the time at which it may be exercised or the time during which it will vest.

(iv) To approve forms of award agreements for use under the Plan and to amend the terms of any one or more outstanding Awards.

(v) To amend the Plan or an Award as provided in Section 10. Subject to the limitations of applicable law, if any, the Board may amend the terms of any one or more Awards without the affected Participant's consent if necessary to maintain the qualified status of the Award as an Incentive Stock Option, to clarify the manner of exemption from, or to bring the Award into compliance with, Section 409A of the Code or to comply with other applicable laws.

(vi) To terminate or suspend the Plan as provided in Section 11.

(vii) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan.

(viii) To adopt such procedures and sub-plans as are necessary or appropriate to permit participation in the Plan by individuals who are foreign nationals or employed outside the United States.

(c) Delegation To Committee.

(i) **General.** The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration is delegated to a Committee, the Committee shall have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to a subcommittee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board shall thereafter be to the Committee or subcommittee), subject, however, to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board or the Committee (as applicable). The Board may retain the authority to concurrently administer the Plan with the Committee and may, at any time, re-vest in the Board some or all of the powers previously delegated.

(ii) **Section 162(m) and Rule 16b-3 Compliance.** In the sole discretion of the Board, the Committee may consist solely of two or more Outside Directors, in accordance with Section 162(m) of the Code, and/or solely of two or more Non-Employee Directors, in accordance with Rule 16b-3. In addition, the Board or the Committee, in its sole discretion, may (1) delegate to a committee of one or more members of the Board who need not be Outside Directors the authority to grant Awards to eligible persons who are either (a) not then Covered Employees and are not expected to be Covered Employees at the time of recognition of income resulting from such Award, or (b) not persons with respect to whom the Company wishes to comply with Section 162(m) of the Code, and/or (2) delegate to a committee of one or more members of the Board who need not be Non-Employee Directors the authority to grant Stock Awards to eligible persons who are not then subject to Section 16 of the Exchange Act.

(d) **Delegation to an Officer.** The Board may delegate to one or more Officers of the Company the authority to do one or both of the following (i) designate Employees of the Company or any of its Subsidiaries to be recipients of Options, Stock Appreciation Rights and, to the extent permitted by applicable law, other Stock Awards and, to the extent permitted by applicable law, the terms thereof, and (ii) determine the number of shares of Common Stock to be subject to such Stock Awards granted to such Employees; *provided, however*, that the Board resolutions regarding such delegation shall specify the total number of shares of Common Stock that may be subject to the Options granted by such Officer. Any such Stock Awards granted by Officers will be granted on the form of Stock Award Agreement most recently approved for use by the Committee or the Board, unless otherwise provided in the resolutions approving the delegation authority. Notwithstanding anything to the contrary in this Section 3(d), the Board may not delegate to an Officer authority to determine the Fair Market Value of the Common Stock pursuant to Section 2(v)(ii) above.

(e) **Effect of Board's Decision.** All determinations, interpretations and constructions made by the Board in good faith shall not be subject to review by any person and shall be final, binding and conclusive on all persons.

(f) **Repricing; Cancellation and Re-Grant of Stock Awards.** Neither the Board nor any Committee shall have the authority to: (i) reprice any outstanding Stock Awards under the Plan,

(ii) provide for the exchange of an Option or Stock Appreciation Right for cash when the exercise price or strike price of such Option or Stock Appreciation Right, respectively, is greater than or equal to the Fair Market Value of a share of Common Stock or (iii) cancel and re-grant any outstanding Stock Awards under the Plan in a manner that would constitute a repricing of such Stock Awards under applicable accounting rules, in each case unless the stockholders of the Company have approved such an action within twelve (12) months prior to such an event; *provided, however*, that this provision shall not prevent cancellations of Stock Awards upon expiration or termination of such Stock Awards and the return of the underlying shares of Common Stock to the Plan for future issuance pursuant to Section 4(b) hereof.

4. SHARES SUBJECT TO THE PLAN.

(a) **Share Reserve.** Subject to the provisions of Section 9(a) relating to Capitalization Adjustments, the number of shares of Common Stock that may be issued pursuant to Stock Awards granted under this Plan shall not exceed Ninety-Four Million Seven Hundred Ninety-Seven Thousand Two Hundred Forty-Eight (94,797,248) shares of Common Stock in the aggregate. Subject to Section 4(b), the number of shares available for issuance under the Plan shall be reduced by: (i) one (1) share for each share of stock issued pursuant to (A) an Option granted under Section 6, or (B) a Stock Appreciation Right granted under Section 7(c), and (ii) (A) one and thirty-six hundredths (1.36) shares for each share of Common Stock issued prior to February 27, 2009 pursuant to a Restricted Stock Award, Restricted Stock Unit Award, or Other Stock Award granted under Section 7, (B) two and eighteen hundredths (2.18) shares for each share of Common Stock issued on or after February 27, 2009 pursuant to a Restricted Stock Award, Restricted Stock Unit Award, or Other Stock Award granted under Section 7, (C) one and twenty-five hundredths (1.25) shares for each share of Common Stock issued on or after March 24, 2011 pursuant to a Restricted Stock Award, Restricted Stock Unit Award, or Other Stock Award granted under Section 7, (D) one and five tenths (1.50) shares for each share of Common Stock issued on or after April 3, 2012 pursuant to a Restricted Stock Award, Restricted Stock Unit Award, or Other Stock Award granted under Section 7, (E) one and six tenths (1.60) shares for each share of Common Stock issued on or after April 2, 2015 pursuant to a Restricted Stock Award, Restricted Stock Unit Award, or Other Stock Award granted under Section 7, and (F) one and seven tenths (1.70) shares for each share of Common Stock issued on or after March 29, 2016 pursuant to a Restricted Stock Award, Restricted Stock Unit Award, or Other Stock Award granted under Section 7. Shares may be issued in connection with a merger or acquisition as permitted by NASDAQ Listing Rule 5635(c) or, if applicable, NYSE Listed Company Manual Section 303A.08, or other applicable rule, and such issuance shall not reduce the number of shares available for issuance under the Plan.

(b) Reversion of Shares to the Share Reserve.

(i) **Shares Available For Subsequent Issuance.** If any (i) Stock Award shall for any reason expire or otherwise terminate, in whole or in part, without having been exercised in full, (ii) shares of Common Stock issued to a Participant pursuant to a Stock Award are forfeited to or repurchased by the Company at their original exercise or purchase price (if any) pursuant to the Company's reacquisition or repurchase rights under the Plan, including any forfeiture or repurchase caused by the failure to meet a contingency or condition required for the vesting of such shares, or (iii) Stock Award is settled in cash, then the shares of Common Stock not issued under such Stock Award, or forfeited to or repurchased by the Company, shall revert to and again become available for issuance under the Plan. To the extent there is issued a share of Common Stock pursuant to a Stock Award that counted as either (A) one and thirty-six hundredths (1.36) shares, (B) two and eighteen hundredths (2.18) shares, (C) one and twenty-five hundredths (1.25) shares, (D) one and five tenths (1.50) shares, (E) one and six tenths (1.60) shares, or (F) one and seven tenths (1.70) shares, as applicable, against the number of shares available for issuance under the Plan pursuant to Section 4(a) and such share of Common Stock again becomes available for issuance under the Plan pursuant to this Section 4(b)(i) on or after March 29, 2016, then the number of shares of Common Stock available for issuance under the Plan shall increase by one and seven tenths (1.70) shares (regardless of when such share was issued).

(ii) **Shares Not Available for Subsequent Issuance.** If any shares subject to a Stock Award are not delivered to a Participant because the Stock Award is exercised through a reduction of shares subject to the Stock Award (*i.e.*, "net exercised") or an appreciation distribution in respect of a Stock Appreciation Right is paid in shares of Common Stock, the

number of shares subject to the Stock Award that are not delivered to the Participant shall be deemed issued and then immediately reacquired by the Company, and therefore shall **not** remain available for subsequent issuance under the Plan. If any shares subject to a Stock Award are not delivered to a Participant because such shares are withheld in satisfaction of the withholding of taxes incurred in connection with the exercise of, or the issuance of shares under, a Stock Award, the number of shares that are not delivered to the Participant shall be deemed issued and then immediately reacquired by the Company, and therefore shall **not** remain available for subsequent issuance under the Plan. If the exercise price of any Stock Award is satisfied by tendering shares of Common Stock held by the Participant (either by actual delivery or attestation), then the number of shares so tendered shall **not** become available for subsequent issuance under the Plan.

(c) **Incentive Stock Option Limit.** Notwithstanding anything to the contrary in this Section 4, subject to the provisions of Section 9(a) relating to Capitalization Adjustments the aggregate maximum number of shares of Common Stock that may be issued pursuant to the exercise of Incentive Stock Options shall be Ninety-Four Million Seven Hundred Ninety-Seven Thousand Two Hundred Forty-Eight (94,797,248) shares of Common Stock.

(d) **Source of Shares.** The stock issuable under the Plan shall be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market or otherwise.

5. ELIGIBILITY.

(a) **Eligibility for Specific Stock Awards.** Incentive Stock Options may be granted only to Employees. Stock Awards other than Incentive Stock Options may be granted to Employees and Consultants; *provided, however*, that Nonstatutory Stock Options and Stock Appreciation Rights may not be granted to Employees and Consultants who are providing Continuous Services only to any “parent” of the Company, as such term is defined in Rule 405 promulgated under the Securities Act, unless such Stock Awards comply with (or are exempt from) Section 409A of the Code or unless the stock underlying such Stock Awards is otherwise determined to be “service recipient stock” under Section 409A of the Code. Stock Awards under this Plan may not be granted to non-employee Directors.

(b) **Ten Percent Stockholders.** An Employee who is also a Ten Percent Stockholder shall not be granted an Incentive Stock Option unless the exercise price of such Option is at least one hundred ten percent (110%) of the Fair Market Value of the Common Stock on the date of grant and the Option has a term of no more than five (5) years from the date of grant and is not exercisable after the expiration of five (5) years from the date of grant.

(c) **Limitation on Annual Awards.** Subject to the provisions of Section 9(a) relating to Capitalization Adjustments, no Employee shall be eligible to be granted Stock Awards whose value is determined by reference to an increase over an exercise or strike price of at least one hundred percent (100%) of the Fair Market Value of the Common Stock on the date the Stock Award is granted covering more than one million (1,000,000) shares of Common Stock during any calendar year. For limitations on the annual award size of Performance Stock Awards and Performance Cash Awards, see Section 7(d) below.

6. OPTION PROVISIONS.

Each Option shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. All Options shall be separately designated Incentive Stock Options or Nonstatutory Stock Options at the time of grant, and, if certificates are issued, a separate certificate or certificates shall be issued for shares of Common Stock purchased on exercise of each type of Option. The provisions of separate Options need not be identical; *provided, however*, that each Option Agreement shall include (through incorporation of provisions hereof by reference in the Option or otherwise) the substance of each of the following provisions:

(a) **Term.** No Option shall be exercisable after the expiration of seven (7) years from the date of grant, or such shorter period specified in the Option Agreement; *provided, however*, that an Incentive Stock Option granted to a Ten Percent Stockholder shall be subject to the provisions of Section 5(b).

(b) **Exercise Price of an Incentive Stock Option.** Subject to the provisions of Section 5(b) regarding Ten Percent Stockholders, the exercise price of each Incentive Stock Option shall be not less than one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Option on the date the Option is granted. Notwithstanding the foregoing, an Incentive Stock Option may be granted with an exercise price lower than that set forth in the preceding sentence if such Option is granted pursuant to an assumption or substitution for another option in a manner consistent with the provisions of Sections 409A and 424(a) of the Code.

(c) **Exercise Price of a Nonstatutory Stock Option.** The exercise price of each Nonstatutory Stock Option shall be not less than one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Option on the date the Option is granted. Notwithstanding the foregoing, a Nonstatutory Stock Option may be granted with an exercise price lower than that set forth in the preceding sentence if such Option is granted pursuant to an assumption or substitution for another option in a manner consistent with the provisions of Sections 409A and 424(a) of the Code.

(d) **Consideration.** The purchase price of Common Stock acquired pursuant to the exercise of an Option shall be paid, to the extent permitted by applicable law and as determined by the Board in its sole discretion, by any combination of the methods of payment set forth below. The Board shall have the authority to grant Options that do not permit all of the following methods of payment (or otherwise restrict the ability to use certain methods) and to grant Options that require the consent of the Company to utilize a particular method of payment. The methods of payment permitted by this Section 6(d) are:

- (i) by cash, check or electronic transfer of cash or cash equivalents;
- (ii) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of Common Stock, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds;
- (iii) by delivery to the Company (either by actual delivery or attestation) of shares of Common Stock;
- (iv) by a “net exercise” arrangement, if the option is a Nonstatutory Stock Option, pursuant to which the Company will reduce the number of shares of Common Stock issued upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; *provided, however*, the Company shall accept a cash or other payment from the Participant to the extent of any remaining balance of the aggregate exercise price not satisfied by such reduction in the number of whole shares to be issued; *provided, however*, that shares of Common Stock will no longer be outstanding under an Option and will not be exercisable thereafter to the extent that (x) shares are used to pay the exercise price pursuant to the “net exercise,” (y) shares are delivered to the Participant as a result of such exercise, and (z) shares are withheld to satisfy tax withholding obligations; or
- (v) in any other form of legal consideration that may be acceptable to the Board.

(e) **Transferability of Options.** The Board may, in its sole discretion, impose such limitations on the transferability of Options as the Board shall determine. In the absence of such a determination by the Board to the contrary, the following restrictions on the transferability of Options shall apply:

- (i) **Restrictions on Transfer.** An Option shall not be transferable except by will or by the laws of descent and distribution and shall be exercisable during the lifetime of the Optionholder only by the Optionholder.
- (ii) **Domestic Relations Orders.** Notwithstanding the foregoing, an Option may be transferred pursuant to a domestic relations order; *provided, however*, that if an Option is an Incentive Stock Option, such Option may be deemed to be a Nonstatutory Stock Option as a result of such transfer.
- (iii) **Beneficiary Designation.** Notwithstanding the foregoing, the Optionholder may, by delivering written notice to the Company, in a form provided by or otherwise satisfactory to the Company and any broker designated by the Company to effect Option exercises, designate a third party who, in the event of the death of the Optionholder, shall thereafter be entitled to exercise the Option. In the absence of such a designation, the executor or administrator of the Optionholder’s estate shall be entitled to exercise the Option. However, the Company may

prohibit designation of a beneficiary at any time, including due to any conclusion by the Company that such designation would be inconsistent with the provisions of applicable laws.

(f) **Vesting of Options Generally.** The total number of shares of Common Stock subject to an Option may vest and therefore become exercisable in periodic installments that may or may not be equal. The Option may be subject to such other terms and conditions on the time or times when it may or may not be exercised (which may be based on performance or other criteria) as the Board may deem appropriate. The vesting provisions of individual Options may vary. The provisions of this Section 6(f) are subject to any Option provisions governing the minimum number of shares of Common Stock as to which an Option may be exercised.

(g) **Termination of Continuous Service.** In the event that an Optionholder's Continuous Service terminates (other than for Cause or upon the Optionholder's death or Disability), the Optionholder may exercise his or her Option (to the extent that the Optionholder was entitled to exercise such Option as of the date of termination of Continuous Service) but only within such period of time ending on the earlier of (i) the date three (3) months following the termination of the Optionholder's Continuous Service (or such longer or shorter period specified in the Option Agreement), or (ii) the expiration of the term of the Option as set forth in the Option Agreement. If, after termination of Continuous Service, the Optionholder does not exercise his or her Option within the time specified herein or in the Option Agreement (as applicable), the Option shall terminate.

(h) **Extension of Termination Date.** An Optionholder's Option Agreement may provide that if the exercise of the Option following the termination of the Optionholder's Continuous Service (other than upon the Optionholder's death or Disability) would be prohibited at any time solely because the issuance of shares of Common Stock would violate the registration requirements under the Securities Act, then the Option shall terminate on the earlier of (i) the expiration of a period of three (3) months after the termination of the Optionholder's Continuous Service (or such longer or shorter period specified in the Option Agreement) during which the exercise of the Option would not be in violation of such registration requirements, or (ii) the expiration of the term of the Option as set forth in the Option Agreement.

(i) **Disability of Optionholder.** In the event that an Optionholder's Continuous Service terminates as a result of the Optionholder's Disability, the Optionholder may exercise his or her Option (to the extent that the Optionholder was entitled to exercise such Option as of the date of termination of Continuous Service), but only within such period of time ending on the earlier of (i) the date twelve (12) months following such termination of Continuous Service (or such longer or shorter period specified in the Option Agreement), or (ii) the expiration of the term of the Option as set forth in the Option Agreement. If, after termination of Continuous Service, the Optionholder does not exercise his or her Option within the time specified herein or in the Option Agreement (as applicable), the Option shall terminate.

(j) **Death of Optionholder.** In the event that (i) an Optionholder's Continuous Service terminates as a result of the Optionholder's death, or (ii) the Optionholder dies within the period (if any) specified in the Option Agreement after the termination of the Optionholder's Continuous Service for a reason other than death, then the Option may be exercised (to the extent the Optionholder was entitled to exercise such Option as of the date of death) by the Optionholder's estate, by a person who acquired the right to exercise the Option by bequest or inheritance or by a person designated to exercise the option upon the Optionholder's death, but only within the period ending on the earlier of (i) the date twelve (12) months following the date of death (or such longer or shorter period specified in the Option Agreement), or (ii) the expiration of the term of such Option as set forth in the Option Agreement. If, after the Optionholder's death, the Option is not exercised within the time specified herein or in the Option Agreement (as applicable), the Option shall terminate.

(k) **Termination for Cause.** In the event that an Optionholder's Continuous Service is terminated for Cause, the Option shall terminate immediately and cease to remain outstanding and the Option shall cease to be exercisable with respect to any shares of Common Stock (whether vested or unvested) at the time of such termination.

7. PROVISIONS OF STOCK AWARDS OTHER THAN OPTIONS.

(a) **Restricted Stock Awards.** Each Restricted Stock Award Agreement shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. To the extent consistent with the Company's Bylaws, at the Board's election, shares of Common Stock may be (i) held

in book entry form subject to the Company's instructions until any restrictions relating to the Restricted Stock Award lapse; or (ii) evidenced by a certificate, which certificate shall be held in such form and manner as determined by the Board. The terms and conditions of Restricted Stock Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Award Agreements need not be identical; *provided, however*, that each Restricted Stock Award Agreement shall include (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(i) **Consideration.** A Restricted Stock Award may be awarded in consideration for (i) past or future services rendered to the Company or an Affiliate, or (ii) any other form of legal consideration that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) **Vesting.** Shares of Common Stock awarded under a Restricted Stock Award Agreement may be subject to forfeiture to the Company in accordance with a vesting schedule to be determined by the Board.

(iii) **Termination of Participant's Continuous Service.** In the event a Participant's Continuous Service terminates, the Company may receive via a forfeiture condition or repurchase right any or all of the shares of Common Stock held by the Participant which have not vested as of the date of termination of Continuous Service under the terms of the Restricted Stock Award Agreement.

(iv) **Transferability.** Rights to acquire shares of Common Stock under the Restricted Stock Award Agreement shall be transferable by the Participant only upon such terms and conditions as are set forth in the Restricted Stock Award Agreement, as the Board shall determine in its sole discretion, so long as Common Stock awarded under the Restricted Stock Award Agreement remains subject to the terms of the Restricted Stock Award Agreement.

(b) **Restricted Stock Unit Awards.** Each Restricted Stock Unit Award Agreement shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. The terms and conditions of Restricted Stock Unit Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Unit Award Agreements need not be identical; *provided, however*, that each Restricted Stock Unit Award Agreement shall include (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(i) **Consideration.** A Restricted Stock Unit Award may be awarded in consideration for (i) past or future services rendered to the Company or an Affiliate, or (ii) any other form of legal consideration that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) **Vesting.** At the time of the grant of a Restricted Stock Unit Award, the Board may impose such restrictions on or conditions to the vesting of the Restricted Stock Unit Award as it, in its sole discretion, deems appropriate.

(iii) **Payment.** A Restricted Stock Unit Award may be settled by the delivery of shares of Common Stock, their cash equivalent, any combination thereof or in any other form of consideration, as determined by the Board and contained in the Restricted Stock Unit Award Agreement.

(iv) **Termination of Participant's Continuous Service.** Except as otherwise provided in the applicable Restricted Stock Unit Award Agreement, such portion of the Restricted Stock Unit Award that has not vested will be forfeited upon the Participant's termination of Continuous Service.

(c) **Stock Appreciation Rights.** Each Stock Appreciation Right Agreement shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. The terms and conditions of Stock Appreciation Right Agreements may change from time to time, and the terms and conditions of separate Stock Appreciation Right Agreements need not be identical; *provided, however*, that each Stock Appreciation Right Agreement shall include (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(i) **Term.** No Stock Appreciation Right shall be exercisable after the expiration of seven (7) years from the date of grant, or such shorter period specified in the Stock Appreciation Right Agreement.

(ii) **Strike Price.** Each Stock Appreciation Right will be denominated in shares of Common Stock equivalents. The strike price of each Stock Appreciation Right shall not be less than one hundred percent (100%) of the Fair Market Value of the Common Stock equivalents subject to the Stock Appreciation Right on the date of grant. Notwithstanding the foregoing, a Stock Appreciation Right may be granted with a strike price lower than that set forth in the preceding sentence if such Stock Appreciation Right is granted pursuant to an assumption or substitution for another stock appreciation right in a manner consistent with the provisions of Sections 409A and 424(a) of the Code.

(iii) **Calculation of Appreciation.** The appreciation distribution payable on the exercise of a Stock Appreciation Right will be not greater than an amount equal to the excess of (i) the aggregate Fair Market Value (on the date of the exercise of the Stock Appreciation Right) of a number of shares of Common Stock equal to the number of share of Common Stock equivalents in which the Participant is vested under such Stock Appreciation Right, and with respect to which the Participant is exercising the Stock Appreciation Right on such date, over (ii) the strike price that is determined by the Board on the date of grant of the Stock Appreciation Right.

(iv) **Vesting.** At the time of the grant of a Stock Appreciation Right, the Board may impose such restrictions or conditions to the vesting of such Stock Appreciation Right as it, in its sole discretion, deems appropriate.

(v) **Exercise.** To exercise any outstanding Stock Appreciation Right, the Participant must provide written notice of exercise to the Company in compliance with the provisions of the Stock Appreciation Right Agreement evidencing such Stock Appreciation Right.

(vi) **Payment.** The appreciation distribution in respect of a Stock Appreciation Right may be paid in Common Stock, in cash, in any combination of the two or in any other form of consideration, as determined by the Board and set forth in the Stock Appreciation Right Agreement evidencing such Stock Appreciation Right.

(vii) **Termination of Continuous Service.** In the event that a Participant's Continuous Service terminates (other than for Cause or upon the Participant's death or Disability), the Participant may exercise his or her Stock Appreciation Right (to the extent that the Participant was entitled to exercise such Stock Appreciation Right as of the date of termination of Continuous Service) but only within such period of time ending on the earlier of (i) the date three (3) months following the termination of the Participant's Continuous Service (or such longer or shorter period specified in the Stock Appreciation Right Agreement), or (ii) the expiration of the term of the Stock Appreciation Right as set forth in the Stock Appreciation Right Agreement. If, after termination of Continuous Service, the Participant does not exercise his or her Stock Appreciation Right within the time specified herein or in the Stock Appreciation Right Agreement (as applicable), the Stock Appreciation Right shall terminate.

(viii) **Extension of Termination Date.** A Participant's Stock Appreciation Right Agreement may provide that if the exercise of the Stock Appreciation Right following the termination of the Participant's Continuous Service (other than upon the Participant's death or Disability) would be prohibited at any time solely because the issuance of shares of Common Stock would violate the registration requirements under the Securities Act, then the Stock Appreciation Right shall terminate on the earlier of (i) the expiration of a period of three (3) months after the termination of the Participant's Continuous Service (or such longer or shorter period specified in the Stock Appreciation Right Agreement) during which the exercise of the Stock Appreciation Right would not be in violation of such registration requirements, or (ii) the

expiration of the term of the Stock Appreciation Right as set forth in the Stock Appreciation Right Agreement.

(ix) **Disability of Participant.** In the event that a Participant's Continuous Service terminates as a result of the Participant's Disability, the Participant may exercise his or her Stock Appreciation Right (to the extent that the Participant was entitled to exercise such Stock Appreciation Right as of the date of termination of Continuous Service), but only within such period of time ending on the earlier of (i) the date twelve (12) months following such termination of Continuous Service (or such longer or shorter period specified in the Stock Appreciation Right Agreement), or (ii) the expiration of the term of the Stock Appreciation Right as set forth in the Stock Appreciation Right Agreement. If, after termination of Continuous Service, the Participant does not exercise his or her Stock Appreciation Right within the time specified herein or in the Stock Appreciation Right Agreement (as applicable), the Stock Appreciation Right shall terminate.

(x) **Death of Participant.** In the event that (i) a Participant's Continuous Service terminates as a result of the Participant's death, or (ii) the Participant dies within the period (if any) specified in the Stock Appreciation Right Agreement after the termination of the Participant's Continuous Service for a reason other than death, then the Stock Appreciation Right may be exercised (to the extent the Participant was entitled to exercise such Stock Appreciation Right as of the date of death) by the Participant's estate, by a person who acquired the right to exercise the Stock Appreciation Right by bequest or inheritance or by a person designated to exercise the Stock Appreciation Right upon the Participant's death, but only within the period ending on the earlier of (i) the date twelve (12) months following the date of death (or such longer or shorter period specified in the Stock Appreciation Right Agreement), or (ii) the expiration of the term of such Stock Appreciation Right as set forth in the Stock Appreciation Right Agreement. If, after the Participant's death, the Stock Appreciation Right is not exercised within the time specified herein or in the Stock Appreciation Right Agreement (as applicable), the Stock Appreciation Right shall terminate.

(xi) **Termination for Cause.** In the event that a Participant's Continuous Service is terminated for Cause, the Stock Appreciation Right shall terminate immediately and cease to remain outstanding and the Stock Appreciation Right shall cease to be exercisable with respect to any shares of Common Stock (whether vested or unvested) at the time of such termination.

(d) Performance Awards.

(i) **Performance Stock Awards.** A Performance Stock Award is either a Restricted Stock Award or Restricted Stock Unit Award that may be granted, may vest, or may be exercised based upon the attainment during a Performance Period of one or more Performance Goals. A Performance Stock Award may, but need not, require the completion of a specified period of Continuous Service. The length of any Performance Period, the Performance Goals to be achieved during the Performance Period, and the measure of whether and to what degree such Performance Goals have been attained shall be conclusively determined by the Committee in its sole discretion. The maximum benefit to be granted to any Participant in any calendar year attributable to Performance Stock Awards described in this Section 7(d)(i) shall not exceed one million (1,000,000) shares of Common Stock.

(ii) **Performance Cash Awards.** A Performance Cash Award is a cash award that may be granted or paid upon the attainment during a Performance Period of one or more Performance Goals. A Performance Cash Award may also require the completion of a specified period of Continuous Service. The length of any Performance Period, the Performance Goals to be achieved during the Performance Period, and the measure of whether and to what degree such Performance Goals have been attained shall be conclusively determined by the Committee in its sole discretion. The maximum benefit to be granted to any Participant in any calendar year attributable to Performance Cash Awards described in this Section 7(d)(ii) shall not exceed four million dollars (\$4,000,000).

(e) **Other Stock Awards.** Other forms of Stock Awards valued in whole or in part by reference to, or otherwise based on, Common Stock may be granted either alone or in addition to Stock Awards provided for under Section 6 and the preceding provisions of this Section 7. Subject to the provisions of the Plan, the Board shall have sole and complete authority to determine the persons to whom and the

time or times at which such Other Stock Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Other Stock Awards and all other terms and conditions of such Other Stock Awards. No Other Stock Award may have a term in excess of seven (7) years from the date of grant.

8. MISCELLANEOUS.

(a) **Use of Proceeds.** Proceeds from the sale of shares of Common Stock pursuant to Stock Awards shall constitute general funds of the Company.

(b) **Stockholder Rights.** No Participant shall be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to such Stock Award unless and until such Participant has satisfied all requirements for exercise of, or the issuance of shares under, the Stock Award pursuant to its terms and the issuance of the Common Stock has been entered into the books and records of the Company.

(c) **No Employment or Other Service Rights.** Nothing in the Plan, any Stock Award Agreement or other instrument executed thereunder or in connection with any Award granted pursuant thereto shall confer upon any Participant any right to continue to serve the Company or an Affiliate in the capacity in effect at the time the Award was granted or shall affect the right of the Company or an Affiliate to terminate (i) the employment of an Employee with or without notice and with or without cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate, or (iii) the service of a Director pursuant to the Bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state in which the Company or the Affiliate is incorporated, as the case may be.

(d) **Incentive Stock Option \$100,000 Limitation.** To the extent that the aggregate Fair Market Value (determined at the time of grant) of Common Stock with respect to which Incentive Stock Options are exercisable for the first time by any Optionholder during any calendar year (under all plans of the Company and any Affiliates) exceeds one hundred thousand dollars (\$100,000), the Options or portions thereof that exceed such limit (according to the order in which they were granted) shall be treated as Nonstatutory Stock Options, notwithstanding any contrary provision of the applicable Option Agreement(s).

(e) **Investment Assurances.** The Company may require a Participant, as a condition of exercising or acquiring Common Stock under any Stock Award, (i) to give written assurances satisfactory to the Company as to the Participant's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Stock Award; and (ii) to give written assurances satisfactory to the Company stating that the Participant is acquiring Common Stock subject to the Stock Award for the Participant's own account and not with any present intention of selling or otherwise distributing the Common Stock. The foregoing requirements, and any assurances given pursuant to such requirements, shall be inoperative if (i) the issuance of the shares upon the exercise or acquisition of Common Stock under the Stock Award has been registered under a then currently effective registration statement under the Securities Act, or (ii) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the Common Stock.

(f) **Securities Law Compliance.** The Company shall seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority as may be required to grant Stock Awards and to issue and sell shares of Common Stock upon exercise of the Stock Awards; *provided, however,* that this undertaking shall not require the Company to register under the Securities Act the Plan, any Stock Award or any Common Stock issued or issuable pursuant to any such Stock Award. If, after reasonable efforts, the Company is unable to obtain from any such regulatory commission or agency the authority that counsel for the Company deems necessary for the lawful issuance and sale of Common Stock under the Plan, the Company shall be relieved from any liability for failure to issue and sell

Common Stock upon exercise of such Stock Awards unless and until such authority is obtained. A Participant shall not be eligible for the grant of a Stock Award or the subsequent issuance of Common Stock pursuant to the Stock Award if such grant or issuance would be in violation of any applicable securities laws.

(g) **Withholding Obligations.** Unless prohibited by the terms of a Stock Award Agreement or the written terms of a Performance Cash Award, the Company may, in its sole discretion, satisfy any federal, state or local tax withholding obligation relating to an Award by any of the following means (in addition to the Company's right to withhold from any compensation paid to the Participant by the Company) or by a combination of such means: (i) causing the Participant to tender a cash payment; (ii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Participant in connection with a Stock Award; *provided, however*, that no shares of Common Stock are withheld with a value exceeding the maximum statutory tax rate of the Participant's applicable jurisdiction(s) (or such other rate as may be necessary to avoid classification of the Stock Award as a liability for financial accounting purposes); (iii) withholding cash from an Award settled in cash; (iv) withholding payment from any amounts otherwise payable to the Participant; or (v) by such other method as may be set forth in the Award agreement.

(h) **Electronic Delivery.** Any reference herein to a "written" agreement or document shall include any agreement or document delivered electronically, filed publicly at www.sec.gov (or any successor website thereto) or posted on the Company's intranet.

(i) **Deferrals.** To the extent permitted by applicable law, the Board, in its sole discretion, may determine that the delivery of Common Stock or the payment of cash, upon the exercise, vesting or settlement of all or a portion of any Award may be deferred and may establish programs and procedures for deferral elections to be made by Participants. Deferrals by Participants will be made in accordance with Section 409A of the Code, to the extent that Section 409A of the Code applies to such Participant. Consistent with Section 409A of the Code, the Board may provide for distributions while a Participant is still an employee or otherwise providing services to the Company. The Board is authorized to make deferrals of Awards and determine when, and in what percentages, Participants may receive payments, including lump-sum payments, following the Participant's separation from service or other permitted distribution event, and implement such other terms and conditions consistent with the provisions of the Plan and in accordance with applicable law.

(j) **Compliance with Section 409A.** Unless otherwise expressly provided for in a Stock Award Agreement or the written terms of a Performance Cash Award, the Plan and Award agreements will be interpreted to the greatest extent possible in a manner that makes the Plan and the Awards granted hereunder exempt from Section 409A of the Code, and, to the extent not so exempt, in compliance with Section 409A of the Code. If the Board determines that any Award granted hereunder is not exempt from and is therefore subject to Section 409A of the Code, the agreement evidencing such Award shall incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code, and to the extent an Award agreement is silent on terms necessary for compliance, such terms are hereby incorporated by reference into such Award agreement. Notwithstanding anything to the contrary in this Plan (and unless the Award agreement specifically provides otherwise), if the shares of the Company's Common Stock are publicly traded and if a Participant holding an Award that constitutes "deferred compensation" under Section 409A of the Code is a "specified employee" for purposes of Section 409A of the Code, no distribution or payment of any amount that is due because of a "separation from service" (as defined in Section 409A of the Code without regard to alternative definitions thereunder) will be issued or paid before the date that is six (6) months following the date of such Participant's "separation from service" or, if earlier, the date of the Participant's death, unless such distribution or payment can be made in a manner that complies with Section 409A of the Code, and any amounts so deferred will be paid in a lump sum on the day after such six (6) month period elapses, with the balance paid thereafter on the original schedule. Each installment of an Award that vests under the Plan is intended to be a "separate payment" for purposes of Treasury Regulations Section 1.409A-2(b)(2), unless otherwise expressly set forth in the written Award agreement.

(k) **Non-Exempt Employees.** No Stock Award granted to an Employee who is a non-exempt employee for purposes of the Fair Labor Standards Act of 1938, as amended, shall be first exercisable for any shares of Common Stock until at least six (6) months following the date of grant. Notwithstanding the

foregoing, consistent with the provisions of the Worker Economic Opportunity Act, (i) in the event of the Participant's death or Disability, (ii) upon a Corporate Transaction in which such Stock Award is not assumed, continued, or substituted, (iii) upon a Change in Control, or (iv) upon the Participant's retirement (as such term may be defined in the Participant's Stock Award agreement or in another applicable agreement or in accordance with the Company's then current employment policies and guidelines), any vested Stock Awards may be exercised earlier than six (6) months following the date of grant. The foregoing provision is intended to operate so that any income derived by a non-exempt employee in connection with the exercise or vesting of a Stock Award will be exempt from his or her regular rate of pay.

(l) **No Obligation to Notify or Minimize Taxes.** The Company shall have no duty or obligation to any Participant to advise such holder as to the time or manner of exercising such Stock Award. Furthermore, the Company shall have no duty or obligation to warn or otherwise advise such holder of a pending termination or expiration of a Stock Award or a possible period in which the Stock Award may not be exercised. The Company has no duty or obligation to minimize the tax consequences of a Stock Award to the holder of such Stock Award.

(m) **Corporate Action Constituting Grant of Stock Awards.** Corporate action constituting a grant by the Company of a Stock Award to any Participant shall be deemed completed as of the date of such corporate action, unless otherwise determined by the Board, regardless of when the instrument, certificate, or letter evidencing the Stock Award is communicated to, or actually received or accepted by, the Participant. In the event that the corporate records (e.g., Board consents, resolutions or minutes) documenting the corporate action constituting the grant contain terms (e.g., exercise price, vesting schedule or number of shares) that are inconsistent with those in the Stock Award Agreement or the written terms of a Performance Cash Award as a result of a clerical error in the papering of the Award agreement, the corporate records will control.

9. ADJUSTMENTS UPON CHANGES IN COMMON STOCK; CORPORATE TRANSACTIONS.

(a) **Capitalization Adjustments.** If any change is made in, or other events occur with respect to, the Common Stock subject to the Plan or subject to any Stock Award during the term of the Plan without the receipt of consideration by the Company (through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or other transaction not involving the receipt of consideration by the Company (each a "**Capitalization Adjustment**")), the Board shall appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to the Plan pursuant to Section 4(a), (ii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of Incentive Stock Options pursuant to Section 4(c), (iii) the class(es) and maximum number of securities that may be awarded to any person pursuant to Sections 5(c) and 7(d)(i), and (iv) the class(es) and number of securities and price per share of stock subject to outstanding Stock Awards. In addition, for each Option or Stock Appreciation Right with an exercise price or strike price, respectively, greater than the consideration offered in connection with any Capitalization Adjustment, Change in Control or Corporate Transaction, the Board may in its discretion elect to cancel such Option or Stock Appreciation Right without any payment to the person holding such Option or Stock Appreciation Right. The Board shall make such adjustments, and its determination shall be final, binding and conclusive. The Board shall make such adjustments, and its determination shall be final, binding and conclusive. The conversion of any convertible securities of the Company shall not be treated as a transaction "without receipt of consideration" by the Company.

(b) **Dissolution or Liquidation.** In the event of a dissolution or liquidation of the Company, all outstanding Stock Awards (other than Stock Awards consisting of vested and outstanding shares of Common Stock not subject to a forfeiture condition or the Company's right of repurchase) shall terminate immediately prior to the completion of such dissolution or liquidation, and the shares of Common Stock subject to the Company's repurchase option or subject to the forfeiture condition may be repurchased or reacquired by the Company notwithstanding the fact that the holder of such Stock Award is providing Continuous Service, *provided, however*, that the Board may, in its sole discretion, cause some or all Stock Awards to become fully vested, exercisable and/or no longer subject to repurchase or forfeiture (to the extent such Stock Awards have not previously expired or terminated) before the dissolution or liquidation is completed but contingent on its completion.

(c) **Corporate Transaction.** The following provisions shall apply to Stock Awards in the event of a Corporate Transaction unless otherwise provided in a written agreement between the Company or any Affiliate and the holder of the Stock Award or unless otherwise expressly provided by the Board or Committee at the time of grant of a Stock Award:

(i) **Stock Awards May Be Assumed.** In the event of a Corporate Transaction, any surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) may assume or continue any or all Stock Awards outstanding under the Plan or may substitute similar stock awards for Stock Awards outstanding under the Plan (including, but not limited to, awards to acquire the same consideration paid to the stockholders of the Company pursuant to the Corporate Transaction), and any reacquisition or repurchase rights held by the Company in respect of Common Stock issued pursuant to Stock Awards may be assigned by the Company to the successor of the Company (or the successor's parent company, if any), in connection with such Corporate Transaction. A surviving corporation or acquiring corporation may choose to assume or continue only a portion of a Stock Award or substitute a similar stock award for only a portion of a Stock Award. The terms of any assumption, continuation or substitution shall be set by the Board in accordance with the provisions of Section 3(b).

(ii) **Stock Awards Held by Current Participants.** In the event of a Corporate Transaction in which the surviving corporation or acquiring corporation (or its parent company) does not assume or continue any or all outstanding Stock Awards or substitute similar stock awards for such outstanding Stock Awards, then with respect to Stock Awards that have not been assumed, continued or substituted and that are held by Participants whose Continuous Service has not terminated prior to the effective time of the Corporate Transaction (referred to as the "**Current Participants**"), the vesting of such Stock Awards (and, if applicable, the time at which such Stock Awards may be exercised) shall (contingent upon the effectiveness of the Corporate Transaction) be accelerated in full to a date prior to the effective time of such Corporate Transaction as the Board shall determine (or, if the Board shall not determine such a date, to the date that is five (5) days prior to the effective time of the Corporate Transaction), and such Stock Awards shall terminate if not exercised (if applicable) at or prior to the effective time of the Corporate Transaction, and any reacquisition or repurchase rights held by the Company with respect to such Stock Awards shall lapse (contingent upon the effectiveness of the Corporate Transaction). No vested Restricted Stock Unit Award shall terminate pursuant to this Section 9(c) (ii) without being settled by delivery of shares of Common Stock, their cash equivalent, any combination thereof, or in any other form of consideration, as determined by the Board, prior to the effective time of the Corporate Transaction (or such later date in accordance with a deferral election as described in Section 8(i)).

(iii) **Stock Awards Held by Former Participants.** In the event of a Corporate Transaction in which the surviving corporation or acquiring corporation (or its parent company) does not assume or continue any or all outstanding Stock Awards or substitute similar stock awards for such outstanding Stock Awards, then with respect to Stock Awards that have not been assumed, continued or substituted and that are held by persons other than Current Participants, the vesting of such Stock Awards (and, if applicable, the time at which such Stock Award may be exercised) shall not be accelerated and such Stock Awards (other than a Stock Award consisting of vested and outstanding shares of Common Stock not subject to the Company's right of repurchase) shall terminate if not exercised (if applicable) prior to the effective time of the Corporate Transaction; *provided, however*, that any reacquisition or repurchase rights held by the

Company with respect to such Stock Awards shall not terminate and may continue to be exercised notwithstanding the Corporate Transaction. No vested Restricted Stock Unit Award shall terminate pursuant to this Section 9(c)(iii) without being settled by delivery of shares of Common Stock, their cash equivalent, any combination thereof, or in any other form of consideration, as determined by the Board, prior to the effective time of the Corporate Transaction (or such later date in accordance with a deferral election as described in Section 8(i)).

(iv) **Payment for Stock Awards in Lieu of Exercise or Settlement.** Notwithstanding the foregoing, in the event a Stock Award will terminate if not exercised prior to the effective time of a Corporate Transaction, the Board may provide, in its sole discretion, that the holder of such Stock Award may not exercise such Stock Award but will receive a payment, in such form as may be determined by the Board, equal in value to the excess, if any, of (i) the value of the cash or property the holder of the Stock Award would have received upon the exercise of the Stock Award immediately prior to the effective time of the Corporate Transaction, over (ii) any exercise price payable by such holder in connection with such exercise. In addition, the Board may provide that with respect to one or more other Stock Awards, such awards will be cancelled prior to exercise or settlement in exchange for a payment, in such form as may be determined by the Board, equal in value to the excess, if any, of (i) the value of the cash or property the holder of the Stock Award would have received upon the exercise of the Stock Award immediately prior to the effective time of the Corporate Transaction, over (ii) any exercise or purchase price (if any) payable by such holder in connection with such Stock Award, and such payment may be fully vested at the time of the Corporate Transaction or may be required to vest after such time substantially in accordance with the schedule originally in effect immediately prior to the Corporate Transaction.

(d) **Change in Control.** A Stock Award may be subject to additional acceleration of vesting and exercisability upon or after a Change in Control as may be provided in the Stock Award Agreement for such Stock Award or as may be provided in any other written agreement between the Company or any Affiliate and the Participant. A Stock Award may vest as to all or any portion of the shares subject to the Stock Award (i) immediately upon the occurrence of a Change in Control, whether or not such Stock Award is assumed, continued, or substituted by a surviving or acquiring entity in the Change in Control, or (ii) in the event a Participant's Continuous Service is terminated, actually or constructively, within a designated period prior to, at, or following the occurrence of a Change in Control. In the absence of a determination by the Plan Administrator, no such acceleration shall occur.

10. AMENDMENT OF THE PLAN AND STOCK AWARDS.

(a) **Amendment of Plan.** Subject to the limitations of applicable law, the Board at any time, and from time to time, may amend the Plan. However, stockholder approval shall be required for any amendment of the Plan that either (i) materially increases the number of shares of Common Stock available for issuance under the Plan, (ii) materially expands the class of individuals eligible to receive Awards under the Plan, (iii) materially increases the benefits accruing to Participants under the Plan or materially reduces the price at which shares of Common Stock may be issued or purchased under the Plan, (iv) materially extends the term of the Plan, or (v) expands the types of Awards available for issuance under the Plan, but only to the extent required by applicable law or listing requirements.

(b) **Stockholder Approval.** The Board, in its sole discretion, may submit any other amendment to the Plan for stockholder approval, including, but not limited to, amendments to the Plan intended to satisfy the requirements of Section 162(m) of the Code and the regulations thereunder regarding the exclusion of performance-based compensation from the limit on corporate deductibility of compensation paid to Covered Employees. Approval of the Plan terms by the Company's stockholders does not create a requirement that the Board or the Committee administer the Plan in all cases in compliance with Section 162(m) of the Code, as the Board and the Committee retain the discretion to grant awards that are not designed or intended to be "performance based compensation" under Section 162(m) of the Code. For the avoidance of doubt, no Awards granted under the Plan on or after April 8, 2019 will be designed or intended to be "performance-based compensation" under Section 162(m) of the Code, and the terms and conditions of this Plan as amended and restated as of such date shall not apply to or otherwise impact outstanding Awards granted prior to such date under the Plan.

(c) **Contemplated Amendments.** It is expressly contemplated that the Board may amend the Plan in any respect the Board deems necessary or advisable to provide eligible Employees with the maximum benefits provided or to be provided under the provisions of the Code and the regulations promulgated thereunder relating to Incentive Stock Options and/or to bring the Plan and/or Incentive Stock Options granted under it into compliance therewith.

(d) **Amendment of Awards.** The Board, at any time and from time to time, may amend the terms of any one or more Awards (either directly or by amending the Plan), including, but not limited to, amendments to provide terms more favorable than previously provided in the Stock Award Agreement or the written terms of a Performance Cash Award, subject to any specified limits in the Plan that are not subject to Board discretion; *provided, however*, that the rights under any Award outstanding at the time of such amendment shall not be materially impaired by any such amendment unless (i) the Company requests the consent of the affected Participant, and (ii) such Participant consents in writing.

11. TERMINATION OR SUSPENSION OF THE PLAN.

(a) **Plan Term.** The Board may suspend or terminate the Plan at any time. Unless sooner terminated, the Plan shall terminate on April 1, 2026. No Awards may be granted under the Plan while the Plan is suspended or after it is terminated, but all Awards made prior to such time will continue in effect after such suspension or termination subject to the terms thereof and of this Plan.

(b) **No Impairment of Rights.** Suspension or termination of the Plan shall not impair rights and obligations under any Award granted while the Plan is in effect except with the written consent of the affected Participant.

12. EFFECTIVE DATE OF PLAN.

The Plan first became effective on the Effective Date.

13. CHOICE OF LAW.

The law of the State of Delaware shall govern all questions concerning the construction, validity and interpretation of this Plan, without regard to that state's conflict of laws rules.

Direction to the Annual Meeting of Stockholders of Synopsisys, Inc.



From San Jose **Via Highway 101**

- Highway 101 North
- Take the Highway 237/Mountain View exit
- Take the Maude Avenue/Middlefield Road exit
- Turn left at first light onto Maude Avenue
- 1030 West Maude Ave. will be the third building on your right

Via Highway 280

- Highway 280 North
- Take the Highway 85 North exit
- Take the Highway 237 East/Highway 101 exit
- Take the Middlefield Road/Maude Avenue exit
- Turn right at second light onto Maude Avenue
- 1030 West Maude Ave. will be the third building on your right

From San Francisco **Via Highway 101**

- Highway 101 South
- Take the Ellis Street exit
- Turn right onto Ellis Street
- Turn left onto Middlefield Road
- Turn left at the fourth light onto the frontage road
- Turn right at the first light onto Maude Avenue
- 1030 West Maude Ave. will be the third building on your right

Via Highway 280

- Highway 280 South
- Take the Highway 85 North exit
- Take the Highway 237 East/Highway 101 exit
- Take the Middlefield Road/Maude Avenue exit
- Turn right at the second light onto Maude Avenue
- 1030 West Maude Ave. will be the third building on your right