

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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2018

or

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

For the transition period from ____ to ____

Commission File Number: 001-35925

TABLEAU SOFTWARE, INC.
(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

47-0945740
(I.R.S. Employer
Identification Number)

**1621 North 34th Street
Seattle, Washington 98103**
(Address of principal executive offices and zip code)

(206) 633-3400
(Registrant's telephone number, including area code)

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

<u>Title of Each Class</u>	<u>Name of each exchange on which registered</u>
Class A Common Stock, par value \$0.0001	New York Stock Exchange

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

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

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

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

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

Large accelerated filer ☒
Non-accelerated filer ☐

Accelerated filer ☐
Smaller reporting company ☐
Emerging growth company ☐

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

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

The aggregate market value of common equity held by non-affiliates of the Registrant on June 30, 2018, based on the closing price of \$97.75 for shares of the Registrant's Class A common stock as reported by the New York Stock Exchange on June 29, 2018, was approximately \$5.6 billion. The Registrant assumed a stockholder was an affiliate of the Registrant at June 30, 2018 if such stockholder (i) beneficially owned 10% or more of the Registrant's capital stock (on an as-converted basis), as determined based on public filings, and/or (ii) was an executive officer or director, or was affiliated with an executive officer or director of the Registrant, at June 30, 2018. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of February 19, 2019, there were 75,594,200 shares of the Registrant's Class A common stock and 10,491,943 shares of the Registrant's Class B common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Information required in response to Part III of Form 10-K (Items 10, 11, 12, 13 and 14) is hereby incorporated by reference to portions of the Registrant's Proxy Statement for the Annual Meeting of Stockholders to be held in 2019. The Proxy Statement will be filed by the Registrant with the Securities and Exchange Commission no later than 120 days after the end of the Registrant's fiscal year ended December 31, 2018.

TABLEAU SOFTWARE, INC.
ANNUAL REPORT ON FORM 10-K
For the Year Ended December 31, 2018

Table of Contents

	<u>PART I</u>	<u>Page</u>
Item 1.	Business	4
Item 1A.	Risk Factors	18
Item 1B.	Unresolved Staff Comments	41
Item 2.	Properties	41
Item 3.	Legal Proceedings	41
Item 4.	Mine Safety Disclosure	41
	<u>PART II</u>	
Item 5.	Market for Registrant's Common Equity, Related Stockholders Matters and Issuer Purchases of Equity Securities	42
Item 6.	Selected Consolidated Financial Data	44
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	47
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	68
Item 8.	Consolidated Financial Statements and Supplementary Data	69
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	105
Item 9A.	Controls and Procedures	105
Item 9B.	Other Information	105
	<u>PART III</u>	
Item 10.	Directors, Executive Officers and Corporate Governance	106
Item 11.	Executive Compensation	106
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	106
Item 13.	Certain Relationships and Related Transactions and Director Independence	106
Item 14.	Principal Accountant Fees and Services	106
	<u>PART IV</u>	
Item 15.	Exhibits and Financial Statement Schedules	107
Item 16.	Form 10-K Summary	109
	Signatures	110

PART I.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and section 27A of the Securities Act of 1933, as amended. All statements contained in this report other than statements of historical fact, including statements regarding our future results of operations and financial position, our business strategy and plans and our objectives for future operations, are forward-looking statements. The words "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "expect," "seek" and similar expressions are intended to identify forward-looking statements. We have based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, business strategy, short-term and long-term business operations and objectives and financial needs. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in the "Risk Factors" section of this report. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the future events and trends discussed in this report may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. The events and circumstances reflected in the forward-looking statements may not be achieved or occur. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. We are under no duty to update any of these forward-looking statements after the date of this report or to conform these statements to actual results or revised expectations.

As used in this report, the terms "Tableau," "Registrant," "Company," "we," "us" and "our" mean Tableau Software, Inc. and its subsidiaries unless the context indicates otherwise.

Tableau and Tableau Software are trademarks of Tableau Software, Inc. All other company and product names may be trademarks of the respective companies with which they are associated.

ITEM 1. BUSINESS

Overview

Our mission is to help people see and understand data.

Our software products put the power of data into the hands of everyday people, allowing a broad population of business users to engage with their data, ask questions, solve problems and create value.

Based on innovative core technologies originally developed at Stanford University, our products dramatically reduce the complexity, inflexibility and expense associated with traditional business intelligence applications.

Our software is designed for anyone with data and questions. We are democratizing the use of business analytics software by allowing people to access information, perform analysis and share results without assistance from technical specialists. By putting powerful, self-service analytical technology directly into the hands of people who make decisions with data, we seek to accelerate the pace of informed and intelligent decision-making. We believe this enables our customers to create better workplaces, with happier employees who are empowered to fully express their ingenuity and creativity.

Our products are used by people of diverse skill levels across all kinds of organizations, including Fortune 500 corporations, small and medium-sized businesses, government agencies, universities, research institutions and non-profits. Organizations employ our products in a broad range of use cases such as increasing sales, streamlining operations, improving customer service, managing investments, assessing quality and safety, studying and treating diseases, completing academic research, addressing environmental problems and improving education. In a world where data is virtually everywhere, we believe we are entering an era of analytics ubiquity. Our products are flexible and capable enough to help a single user on a laptop analyze data from a simple spreadsheet, or to enable tens of thousands of users across an enterprise to execute sophisticated queries against large and complex data sets.

Underpinning our innovative products is a set of technology advances that spans the domains of sophisticated computer graphics, human-computer interaction and high performance database systems. These technology innovations include VizQL and our Hybrid Data Architecture:

- **VizQL** — Our breakthrough visual query language, VizQL, translates drag-and-drop actions into data queries and then expresses that information visually. VizQL unifies the formerly disparate tasks of query and visualization and allows users to transform questions into pictures without the need for software scripts, chart wizards or dialogue boxes that inhibit speed and flexibility. This capability is designed to enable a more intuitive, creative and engaging experience for our users. VizQL can deliver dramatic gains in people's ability to see and understand data, and we believe it represents a foundational advancement in the field of analytics.
- **Hybrid Data Architecture** —Our Hybrid Data Architecture combines the power and flexibility of our Live Query technology and Hyper, our in-memory data engine technology. Our Live Query technology allows users to instantaneously connect to large volumes of data in its existing format and location, including databases and cloud applications. This capability allows customers to leverage investments in their existing data platforms and to capitalize on the capabilities of high performance databases. Hyper, our in-memory data engine technology, is designed for fast data ingestion and analytical query processing on large or complex data sets. With enhanced extract creation and refresh performance, customers can choose to extract their data based on the needs of the business without concern for scheduling limitations or data volumes. Our Hybrid Data Architecture gives users the flexibility to access and analyze data from diverse sources and locations, while optimizing speed and performance for each source.

Our distribution strategy is designed to capitalize on the ease of use, low up-front cost, flexible deployment and collaborative capabilities of our software. To facilitate rapid adoption of our products, we provide fully-functional free trial versions of our products on our website and offer a flexible pricing model. After an initial trial or purchase, an organization has the flexibility to expand adoption of our products at any scale. During 2018, Tableau began offering role-based subscriptions via Tableau Creator, Explorer and Viewer subscriptions, each providing tailored combinations of our products' analytical capabilities that are designed for different user needs, from sophisticated analysts to casual users.

As of December 31, 2018, we had over 86,000 customer accounts across a broad array of company sizes and industries. Some of our largest customers include Charles Schwab, ExxonMobil, Honeywell, Johnson & Johnson, JPMorgan Chase, Pfizer and various United States ("U.S.") Government Agencies. In addition, we have cultivated strong relationships with technology partners to help us extend the reach of our products. These partners include Alphabet Inc. ("Google"), Alteryx, Inc., Amazon.com, Inc., Cloudera, Inc., Informatica Corporation, Microsoft Corporation, Snowflake Computing, Inc. and Teradata Corporation.

We adopted the new revenue recognition accounting standard, codified as Accounting Standards Codification ("ASC") 606, effective January 1, 2018 on a modified retrospective basis. Our adoption of the new revenue recognition accounting standard is described later in this report. For the year ended December 31, 2018, total ASC 606 revenues were \$1.16 billion and total ASC 606 net loss was \$77.0 million. For the years ended December 31, 2018, 2017 and 2016, our total revenues under the previous standard, ASC 605, were \$982.9 million, \$877.1 million and \$826.9 million, respectively. We incurred ASC 605 net losses of \$277.2 million, \$185.6 million and \$144.4 million for the years ended December 31, 2018, 2017 and 2016, respectively.

We have generated positive cash flows from operating activities of \$154.7 million, \$226.9 million and \$177.3 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Growth Strategy

Our mission to help people see and understand data presents a broad market opportunity. We intend to continue to invest in a number of growth initiatives to allow us to pursue our mission. Our strategies for growth include:

- **Expand our customer base** —We operate in a rapidly growing analytics and business intelligence software market. We believe that Tableau is well positioned in the market to expand our present customer base of over 86,000 customer accounts. We are expanding our online and offline marketing efforts to increase our brand awareness. We are also continuing to grow our direct sales teams and expand our indirect sales channels.
- **Further penetrate our existing customer base** —We intend to continue to increase adoption of our products within and across our existing customer base, as they expand the number of users and develop

new use cases for our products in the enterprise. Our sales and marketing strategy and our focus on customer success help our customers identify and pursue new use cases within their organizations. As this expansion occurs, we believe that our products will also increasingly supplant incumbent legacy platforms to become the standard platform for analytics and business intelligence for our customers.

- **Grow internationally** —With approximately 31% of our total ASC 606 revenues generated from sales outside the United States and Canada in the year ended December 31, 2018, we believe there is significant opportunity to grow our international business. Our products currently support eight languages, and we are expanding our direct sales force and indirect sales channels outside the United States. As of December 31, 2018, we had operations in North America, Europe and Asia Pacific. We intend to invest in further expanding our footprint in these and other regions.
- **Relentlessly innovate and advance our products** —We have sought to rapidly improve the capabilities of our products over time and intend to continue to invest in product innovation and leadership. Building on our foundational technology innovations, we continue to expand and improve our feature set and capabilities. For example, in February 2019, we released Tableau 2019.1 which introduced Ask Data, which leverages natural language processing to enable users to ask questions in plain language and get a visual response in Tableau. Also in February 2019, we released Tableau Prep Conductor, a new product that enables organizations to schedule and manage self-service data preparation at scale. Tableau Prep Conductor is part of a new subscription offering called the Tableau Data Management Add-On. Our plans to continue to invest in research and development include hiring top technical talent, focusing on core technology innovation, maintaining an agile organization that supports rapid release cycles and integrating acquired technologies. We intend to focus on further developing our cloud capabilities, offering faster data analysis, continuing to enhance our self-service platform and making data preparation easier.
- **Extend our distribution channels and partner ecosystem** —We plan to continue investing in distribution channels, technology partners and other strategic relationships to help us enter and grow in new markets while complementing our direct sales efforts. We are actively growing our indirect distribution channels. Our most important technology partnerships include partnerships with Alteryx, Inc., Amazon.com, Inc., Cloudera, Inc., Google, Informatica Corporation, Microsoft Corporation, Snowflake Computing, Inc. and Teradata Corporation, with which we have collaborated to develop high performance and optimized connectivity to a broad group of popular data stores and applications. We intend to continue to invest in partnerships that enable us to build and promote complementary capabilities that benefit our customers. We also offer application program interfaces ("APIs") to further empower the Tableau developer community and our original equipment manufacturer ("OEM") partner ecosystem to create applications that embed Tableau functionality.
- **Foster our passionate user community** —We benefit from a vibrant and engaged user community. We are investing in initiatives to further expand and energize this group through our online community site, customer conferences and other events. Our seminal event is our annual global customer conference, Tableau Conference, which was most recently held in New Orleans and attended by more than 17,000 customers and partners in 2018. In 2018, we also hosted Tableau Conference Europe in London, which was attended by more than 1,800 customers and partners.
- **Treasure and cultivate our exceptional culture** —We believe our culture is a core ingredient of our success. Our employees share a passion for our mission, and our mission stands at the top of a list of eight core cultural values that govern our approach to our business. Our other core values include: teamwork; product leadership; using our own products; respect; honesty; simplicity; and commitment to delighting customers. Our values permeate our organization and drive our identity as a company. For example, we strive to simplify all aspects of our business, including product user interfaces, pricing models, business processes and marketing strategies. Our culture is consistently cited in employee surveys as a key reason for their satisfaction with Tableau, and we have been publicly recognized as one of the best workplaces in a number of locations where we conduct our operations.

Products

Our products help people see and understand data. They offer the power and flexibility required to serve a broad range of use cases, from answering questions with small spreadsheets to complex enterprise business intelligence projects involving massive volumes of data. We currently offer five key products: Tableau Desktop, a self-service, powerful analytics product for anyone with data; Tableau Server, a business intelligence platform for organizations; Tableau Online, a hosted software-as-a-service ("SaaS") version of Tableau Server; Tableau Prep,

a data preparation product for combining, shaping and cleaning data; and Tableau Public, a free cloud-based platform for analyzing and sharing public data.

Tableau Desktop

Tableau Desktop helps knowledge workers make sense of the many kinds of data they encounter every day. The defining capability of Tableau Desktop is the interactive experience it provides for exploring and analyzing data. By fundamentally integrating data analysis and visualization, our products provide a visual window into data trapped in spreadsheets and databases, fostering greater engagement with data and allowing people to better answer questions, develop insights and solve problems. The result is a self-service analytics environment that empowers people to access and analyze data independently and at a rapid pace. Tableau Desktop's key capabilities include:

- **Visual analytics** —Tableau Desktop empowers people to ask sophisticated questions by composing drag-and-drop pictures of their data. Tableau Desktop's easy-to-use interface is built on VizQL, which is capable of describing thousands of easily understood visual presentations of data including tables, maps, time series, dashboards and tables of graphs. The combination of a sophisticated language with a simple user interface means users can explore many different perspectives of their data. We believe being able to quickly view data from different perspectives inspires creative thinking and helps people find the right view to answer a question.
- **Analytical depth** —An important aspect of Tableau Desktop is its ability to marry powerful visualization with deep analytics. Users can filter and sort their data, create sophisticated calculations, drill into underlying information, define sets and cohorts, perform statistical analysis and derive correlations between diverse data sets with agility and relative ease. For example, with a few clicks, users can generate sophisticated forecasting models. This combination of simplicity and usefulness, ease of use and analytical depth is what makes it possible for Tableau Desktop to empower a whole new group of people to become data analysts.
- **Data access** —Tableau Desktop lets people access and query a large number of common data sources, from database systems such as Amazon Redshift, Google BigQuery, Hadoop, Microsoft Azure Database, NoSQL, Snowflake and SQL Server, to Web applications like Google Analytics and Salesforce, to spreadsheets, PDFs and JSON files. Users can connect to more than 65 data connectors with a few clicks, without any scripting or programming.
- **Live query** —Tableau Desktop translates users' interactions into live queries. As people use the drag-and-drop interface to examine information, they are automatically generating sophisticated queries against their database. Tableau Desktop can generate queries in a range of query languages including Structured Query Language ("SQL") and Multidimensional Expressions ("MDX"). Each query is optimized for the target platform and its unique performance and analytical characteristics. This live query approach allows customers to leverage their investments in database infrastructure and enables them to take advantage of query-optimized databases.
- **In-memory query** —Tableau Desktop contains Hyper, an in-memory data engine technology that enables rapid analysis. A core Tableau platform technology, Hyper uses proprietary dynamic code generation and parallelism techniques to achieve fast performance for extract creation and query execution. By extracting data to Hyper, customers can analyze large or complex data sets faster.
- **Data integration** —Many questions require combining data from multiple sources. Tableau Desktop provides a number of ways for people to combine data without requiring a typical data loading and transformation project. Users can connect to many different data sources, with each source independently leveraging either a live query or in-memory approach. Users can then combine the data in a single dashboard, visualization, filter or calculation using our data blending functionality. This approach can greatly extend the scope and depth of questions a person can answer.
- **Sharing and presentation** —Tableau Desktop allows users to author and distribute visualizations and dashboards with the ease expected of everyday office tools like spreadsheets. Content created in Tableau Desktop can be embedded in documents and presentations, or the workbooks can be distributed for viewing by people who have Tableau Desktop or Tableau Reader, a free product to view and interact with visualizations built in Tableau Desktop. Alternately, users can publish their workbooks to Tableau Server or Tableau Online enabling others in the organization to access them using a Web browser or a mobile device.

Tableau Server

Tableau Server is a powerful business intelligence platform with enterprise-class security, governance and scalability. The collaborative features of Tableau Server are designed to foster more sharing of analytics to improve the dissemination of information across an organization and promote improved decision-making. Tableau Server's key capabilities include:

- **Shared content** —Tableau Server provides an easy-to-navigate repository of shared visualizations and dashboards within an organization. Any user with appropriate credentials can view, interact, create data-driven alerts, edit and author new visualizations from published data using a Web browser. Users can also view and interact with published visualizations using a phone or tablet. The ability to publish dashboards and easily share impactful visual analysis increases awareness of business data and promotes improved decision-making. In addition, allowing others to interact with an analysis gives them deeper understanding of the information, which leads to an improved grasp on the problem and hence greater confidence in the solution.
- **Governed data** —Organizations can use Tableau Server to centrally manage enterprise data sources and metadata enabling knowledge sharing, efficiency, governance and data consistency. Business users or IT professionals can create rich data models, containing calculations, hierarchies, field aliases, sets and security rules, and publish them to Tableau Server to be shared across an organization. Others can use these models as a starting point for analysis while extending them to meet their own specific analytical needs. While centralized data models are not a pre-requisite for analysis in Tableau, they provide flexibility and increased productivity while maintaining control and security of data.
- **Universal access** —We have designed Tableau Server to enable seamless sharing of content across desktop, mobile and Web clients. Once users author and publish analytical content to the server, people across an organization can consume it on different browsers and devices. Further, Tableau Server automatically detects the device being used and adapts the content to take advantage of the device's capabilities including native touch experience and form factor. Tableau Server allows users to actively subscribe to content for automatic delivery on their devices or pull content on demand.
- **Integration and Embedded Analytics** —Tableau Server offers APIs that help developers, customers and partners embed and control our software from portals, websites and other enterprise applications. Our APIs can also be used to generate in-memory Hyper extracts, upload content and add users to the server programmatically. In addition to APIs, we also offer command line utilities to automate management tasks, and data upload tools to move data rapidly into Tableau Server.
- **Scalability** —Tableau Server's distributed multi-tier architecture allows it to scale to tens of thousands of users, across desktop, Web and mobile clients, meeting the needs of some of the largest organizations globally.
- **Security** —Tableau Server provides a security model that encompasses authentication, authorization, data and network security. Tableau Server is also built on a multi-tenant architecture that allows administrators to logically partition a single system across user populations, providing for separation of content.
- **Administration** —We believe the ease of administering a system is tremendously important to its adoption. While Tableau Server's management interface is designed to be simple enough for a line-of-business user, we also provide APIs to allow administrators to automate routine management processes.

Tableau Online

Tableau Online, a hosted SaaS version of Tableau Server, is built on the Tableau Server platform and provides ease of use, speed and availability without requiring customers to manage physical infrastructure. Tableau Online is a fully-hosted solution that can be accessed by clients remotely using Tableau Desktop, a browser or a mobile device. In addition to offering the same capabilities as Tableau Server, Tableau Online's key capabilities include:

- **Hybrid data connectivity** —Tableau Online supports both live connectivity and in-memory extracts of cloud databases including Amazon Redshift, Google BigQuery and Microsoft SQL Azure. Users can access real-time data from cloud data sources without requiring data snapshots.

- **On-premises data sync** —Tableau Online provides easy syncing of on-premises data such as Microsoft Excel to the cloud through the Tableau Bridge feature. This enables customers to keep their data up-to-date.
- **Always up-to-date** —Tableau Online includes the latest maintenance releases and versions of Tableau Server. Customers do not need to worry about upgrading their infrastructure or deploying the latest patches.
- **Reliable and scalable** —Tableau Online is a SaaS analytics application built on the same enterprise-class architecture of Tableau Server.

Tableau Prep

Tableau Prep empowers users to get to analysis faster by helping them combine, shape and clean their data. Tableau Prep provides customers with features to make data preparation simple and integrates directly with the Tableau analytical workflow. Tableau Prep's key capabilities include:

- **Complete Picture** —Tableau Prep offers three coordinated views that provide users with a complete picture of their data and flow. Users have the flexibility to pick which view to interact with based on the task at hand.
- **Immediate results** —Tableau Prep provides a direct and immediate experience allowing users to instantly see data change with each action, even on millions of rows of data. Immediate results give users the freedom to re-order steps and experiment without consequence.
- **Simplicity** —Tableau Prep's drag and drop visual experience simplifies data preparation tasks such as joins, unions, pivots and aggregations.
- **Integration** —Tableau Prep uses Tableau's data connectors, calculation language and governance structure so users can get up to speed quickly and can collaborate at any point in the analytical process. Users can open a Tableau Prep workflow in Tableau Desktop at any time, or easily share it with Tableau Server or Tableau Online.
- **Smart Algorithms** —Tableau Prep features smart algorithms to help automate common data preparation challenges. For example, Tableau Prep employs fuzzy clustering to turn repetitive tasks, like grouping by pronunciation or cleaning based on punctuation, into one-click operations.

Tableau Public

Tableau Public is a free cloud-based offering that is available for anyone to use with public data. This offering allows users of diverse backgrounds, including bloggers, journalists, researchers and government workers, to easily visualize and embed public data on their websites. People who visit these websites can interact with the visualizations and share them electronically via social media or other means.

Using Tableau Public, data can be transformed into interactive graphs, dashboards and maps for the world to see on the Web. For example, a blogger focused on economic issues may write a feature about changes in the U.S. unemployment rate. Using Tableau Public, the blogger can quickly build an interactive visualization using data from the U.S. Bureau of Labor Statistics and embed it in their blog. Every time the site is viewed, Tableau Public serves up the data as a dynamic visualization.

Tableau Public enables us to test new product features and engage in user research as well as generate greater awareness of Tableau and increase community engagement. In addition to offering most of the features of Tableau Desktop and Tableau Server, Tableau Public offers the following capabilities:

- **Web scale** —Tableau Public meets the massive performance requirements of serving dynamic content on top tier websites including media channels, social media and other consumer internet services. Through a combination of proprietary software and optimized hardware, we have designed a highly scalable, multi-tenant, online infrastructure. Tableau Public has reached over 1 billion cumulative views worldwide, and over 1 million visualizations have been published on Tableau Public to date.
- **Social reach** —Anyone viewing or interacting with a Tableau Public visualization can share it on social media. The ease of social sharing has facilitated greater conversations around data on Tableau Public.
- **Embedding** —Tableau Public views can be embedded in Web pages and blogs. Authors can enrich their websites and engage their audience with interactive visualizations based on Tableau Public.

Tableau Public has been used by hundreds of thousands of people to make public data easy to see and understand. People have used the product to visualize and share data about government budgets, school performance, economic policy, sports statistics and box office trends. Visualizations from Tableau Public have appeared in many news organizations' publications such as CNBC, Huffington Post, Business Insider, The Telegraph and Australia's ABC News, as well as publications from bloggers and researchers.

Technology

Visual Query Language (VizQL) for Databases

At the heart of Tableau's products is our proprietary and breakthrough technology called VizQL. VizQL is a visual query language for data that simultaneously describes how to query data and how to present it visually. VizQL can deliver dramatic gains in people's ability to see and understand data. We believe VizQL is unique in several important aspects:

- **Extensibility and flexibility** —VizQL is a computer language for describing pictures of data, including graphs, charts, maps, time series and tables of visualizations. VizQL unifies these different visual representations into a single framework. Conventional component architectures that underlie reporting packages and charting wizards contain a fixed number of computer procedures, one for each type of picture. VizQL, in contrast, is a language for creating pictures. Each type of picture is a different statement in the language. The extensibility and flexibility of VizQL makes it possible to create a virtually unlimited number of visualizations.
- **Transforms database records to graphical representations** —VizQL statements define the mapping from records returned from a database to graphical marks on a screen. Some fields in the record control the geometric properties of the mark, including position, size and orientation while other fields control visual attributes like color, transparency and shape.
- **Declarative language** —VizQL is a declarative language like other database languages, including SQL. The advantage of a declarative language is that the user describes what picture should be created, not how to make it. The user does not need to be aware of underlying implementation as query, analysis and rendering operations run behind the scenes. The result is a portable and more scalable system.
- **Defines and controls queries** —VizQL procedures define both the resulting picture and the database query. Our Live Query Engine generates efficient queries for external databases of many types from many vendors. VizQL also controls execution of our optimized in-memory data engine technology to perform calculations in real time.
- **Optimized** —VizQL's interpreter is optimized for interactive use, enabling visualization and drawing of large data sets. VizQL is specifically designed to take advantage of modern computer graphics hardware, such as the fast rendering chips developed for gaming that are standard on personal computers.

The initial development of VizQL began at Stanford University in 1999. Stanford University has granted us an exclusive license to commercialize the software and related patents resulting from that research. The software and related patents generally relate to three subject areas: (1) architecture for creating table-based visualizations from relational databases; (2) graphical user interface for creating specification for table-based visualizations; and (3) an environment for rapid development of interactive visualizations. Our license from Stanford University is exclusive in all fields, worldwide and sublicensable. The license agreement provides for Tableau to own all improvements to and derivative works of the software that it develops. The license agreement also provides for enforcement of the licensed patents against alleged infringers. If Stanford University and Tableau agree to jointly enforce the licensed patents against an alleged infringer, the parties equally share the costs and the recovery or settlement for such enforcement. If Stanford University and Tableau do not agree to jointly enforce the licensed patents against an alleged infringer, Stanford University and Tableau will each have the right to enforce the licensed patents against the alleged infringer. If Tableau files such a suit in a United States court, Stanford University joins such suit only for standing purposes, and Tableau wins an award of damages for, or receives a settlement payment for, infringement of a United States licensed patent, Tableau would retain that award or settlement payment and would be required to negotiate in good faith with Stanford University to compensate it for its expenses in connection with the suit. If Stanford University files such a suit in a United States court, Tableau joins such suit only for standing purposes, and Stanford University wins an award of damages for, or receives a settlement payment for, infringement of a United States licensed patent, Stanford University would retain that award or settlement payment. The license agreement does not expire and can be terminated by Stanford University only if Tableau breaches the agreement and does not remedy the breach within 30 days after receiving

written notice of the alleged breach from Stanford University. We have invested substantial research and development in VizQL since obtaining these rights. We have also been granted additional patents related to our core VizQL technology.

Live Query Engine

We have developed a Live Query Engine that interprets abstract queries generated by VizQL into syntax understandable by popular database systems. For instance, our Live Query Engine can compile VizQL statements into optimized SQL and MDX syntax understandable by database systems made by Amazon.com, Inc., Google, Microsoft Corporation, SAP SE, Snowflake Computing, Inc., Teradata Corporation and many other database vendors. As a result, our technology provides customers with a way to increase the accessibility, usability and performance of their databases. It also gives them a uniform user interface for interacting with databases of diverse vendors, formats and sizes.

It is common for traditional business intelligence products to import data from the organization's database systems. In contrast, Tableau's Live Query Engine enables people to query databases without having to first import the data into our products. Queries generated by our Live Query Engine are interpreted and run by the database, with only the results of each query rendered. This approach offers many advantages for customers:

- **Data consistency** —Copying data can cause people to work with out-of-date information. Further, each copy of the data may represent information at different times leading to inconsistency. With our Live Query Engine, customers do not need to create additional copies of their data.
- **Avoids data movement** —Moving and loading data is often time consuming and expensive. With Live Query Engine, our customers do not need to move data in order to use our products.
- **Scalability** —Many database vendors provide massively parallel implementations of databases that provide scalable data access to large data sets. These systems can scale in various ways including scaling the number of tables in the database, the number of records in each table, the number of columns in each record, the number of users and the number of active queries. These systems also provide powerful computation capabilities for very large data volumes. Our Live Query Engine allows businesses to leverage their investment in scalable data infrastructure.
- **Security** —Transferring data out of a database causes customers to lose the security and permissions models associated with that data. Using our Live Query Engine, customers can leverage the security and permissions models specified in their database systems.
- **Flexibility** —The database industry consists of multiple vendors with competitively differentiated products. Our Live Query Engine enables our customers to choose the appropriate technology for their business.

We focus on ensuring our software is compatible with popular database platforms and that our live query technology works with the most recent releases of those platforms. Our Live Query Engine is compatible with more than 65 data connectors.

We believe the size of the data that our customers analyze continues to grow. We will continue to develop our live query technology with the goal of empowering our users to have complete access to any data stored anywhere.

Hyper

Hyper is a high-performance in-memory data engine technology that helps customers analyze large or complex data sets by efficiently evaluating analytical queries directly in the transactional database. A core Tableau platform technology, Hyper uses proprietary dynamic code generation and cutting-edge parallelism techniques to achieve fast performance for extract creation and query execution. Hyper provides users with the following benefits:

- **Column-based storage** —Transactions and analytical queries are processed on the same column store, with no post-processing needed after data ingestion. This reduces stale data and minimizes the connection gap between specialized systems. Hyper's unique approach allows a true combination of read-and write-heavy workloads in a single system, providing fast extract creation without sacrificing fast query performance.
- **Dynamic code generation** —Hyper uses a just-in-time compilation execution model. Hyper optimizes and compiles queries into custom machine code to make better use of the underlying hardware. The end result is better utilization of modern hardware for faster query execution.

- **Morsel-driven parallelization** —Hyper includes a parallelization model that is based on very small units of work ("morsels"). These morsels are assigned efficiently across all available cores, allowing Hyper to more efficiently account for differences in core speed. This translates into more efficient hardware utilization and faster performance.

By importing data into Hyper, our customers can get many of the benefits of a fast database without the complication, cost and delay of a new investment in databases systems. Hyper is designed to be used on commodity hardware common in enterprise organizations today.

Hybrid Data Architecture

We have designed our Live Query technology and in-memory data engine technology to work in harmony. This hybrid approach gives customers flexibility and power. For instance, customers can use our in-memory data engine to import a sample of data from a large database, and then after designing an initial visualization that answers a question, run the visualization against the entire database using the live query option. As another example of the hybrid approach, customers can integrate live data with in-memory data in a single visualization or dashboard. Both of these examples can be achieved by business users without any programming or scripting.

Seasonality

We generally experience seasonal fluctuations in demand for our products and services. Our quarterly sales are impacted by industry buying patterns. As a result, our sales have generally been highest in the fourth quarter of a calendar year and lowest in the first quarter.

Customers

Our software is designed for anyone with data and questions. Our customers range from the largest corporations in the world to sole proprietors. Tableau's ease of installation and maintenance provides the flexibility to be deployed by individuals, departments or as an enterprise-wide platform. We provide our products to organizations in various industries, including business services, energy and telecommunications, financial services, life sciences and healthcare, manufacturing and technology, media and entertainment, public sector and education, and retail, consumer and distribution.

We continue to expand our customer base. As of December 31, 2018, we had over 86,000 customer accounts compared to over 70,000 as of December 31, 2017 and over 54,000 as of December 31, 2016. We define a customer account as a single purchaser of our products. Customer accounts are typically organizations. In some cases, organizations will have multiple groups purchasing our software, which we count as discrete customer accounts. No individual customer represented more than 10% of our total revenues in 2018, 2017 or 2016.

Mix and Timing of Sales

Our business model results in a wide variety of sales transaction sizes. The time it takes to close a transaction, defined as the time between the entering of a sales opportunity into our customer relationship management system and the signing of a related license agreement with the customer, generally varies based on the size of the transaction. Our enterprise license agreements generally have more extended sales cycles and take longer to close.

Our sales mix is also impacted by our continued transition to a more subscription-based business model. In April 2018, we introduced role-based subscription offerings to help organizations scale analytics.

Role-Based Subscription Offerings

Tableau Creator, Explorer and Viewer subscriptions each provide tailored combinations of Tableau's analytical capabilities designed for different user needs, from sophisticated analysts to casual users. Further details on each role-based subscription offering follow:

- **Tableau Creator** —Tableau Creator provides the full power of the Tableau platform. It helps users uncover insights faster by combining a suite of products for visual and direct data prep, powerful analytics on the Web and desktop and secure collaboration to support their end-to-end analytics workflow. It includes a license for Tableau Server or Tableau Online, allowing users to publish and share their work. It also includes a Tableau Desktop and Tableau Prep license.

- **Tableau Explorer** —Tableau Explorer provides governed self-service analytics. It enables users to create new dashboards based on governed data sources, collaborate with others and stay on top of data with data driven alerts, all within the convenience of their Web browsers.
- **Tableau Viewer** —Tableau Viewer helps organizations extend the value of data and analytics across their entire workforce. It helps users within scaled deployments make data-driven decisions based on trusted content by interacting with dashboards and visualizations created by others in a secure, easy-to-use platform. Users can view and filter dashboards, receive and manage subscriptions to dashboards and receive data driven alerts, all via a Web browser or a mobile device.

Support and Services

Our products are designed for our customers to be able to deploy and use on their own. However, we offer several training and professional services programs to enable our customers to maximize their experience and successful use of our products.

Maintenance Services

Our maintenance services provide access to new releases of our software in addition to technical support services. Our technical support team also fields "how-to" inquiries from customers related to specific product functionality.

We offer multiple levels of technical support services to our customers globally. Our highest support level includes a dedicated phone number to address critical issues, 24 hours a day, seven days a week, year-round. In addition, we offer a variety of support tools on our website including a knowledge base, product documentation guides, release notes and drivers. We have also developed an extensive online support community, which includes forums and user groups, that is intended to enable our customers to learn and to connect with each other.

Training

In order to enable our customers to be self-reliant, we offer free online training to customers on our website, including hundreds of hours of training videos, sample visualizations and best practice articles.

We also provide a variety of fee-based product training options ranging from instructor-led courses in a traditional classroom setting to online courses. These training courses are designed to deepen understanding of specific aspects of our products and range from a single day to a week in length.

Professional Services

We have also invested in a professional services organization to help our customers maximize their benefits from using our products. Our professional services are generally intended to accelerate the analytics process rather than focus on installation and configuration of our software, as we believe most of our customers are able to deploy our products without assistance. These services are delivered either in person or remotely, and we tailor our services engagements to a customer's specific needs.

Tableau Community

We have built a strong and growing community of users and partners that help us achieve our mission. The purpose of our community is to give customers and prospects opportunities to connect and share their experiences and ideas, and to allow them to provide valuable feedback on our products that helps us prioritize product enhancements.

Our online community currently offers:

- knowledge bases, forums and repositories that help users learn about topics of interest, ask questions and share insights;
- Tableau user groups, which allow users to connect based on geographical location or industry affiliation;
- Ideas Forum, an avenue to share product suggestions;
- Viz Talk, designed to let users share and discuss interesting data visualizations;
- how-to blogs; and
- other news.

We also organize events to engage with our customers and foster our user community. Our seminal event is our annual global customer conference, Tableau Conference, which was most recently held in New Orleans and

attended by more than 17,000 customers and partners in 2018. In 2018, we also hosted Tableau Conference Europe in London, which was attended by more than 1,800 customers and partners. At these events, our customers have the opportunity to network and connect, learn best practices, attend training sessions and present their questions and suggestions directly to our software developers, executives and other employees. Many of our customers also form local user groups that meet periodically to discuss and share experiences using our products.

Culture and Employees

Our culture is fundamental to our success and we embrace and cultivate it with pride. We view our employees as partners in creating a great work environment, and we take a long-term approach to their recruitment, development and retention. As a result of our careful hiring choices, we believe our company is populated by smart, respectful people grounded in humility.

As of December 31, 2018, we had 4,181 full-time employees globally. We also engage temporary employees and consultants. None of our employees are represented by a labor union. We have not experienced any work stoppages, and we consider our relations with our employees to be good.

Sales and Marketing

Our sales and marketing teams collaborate to create market awareness and demand, to build a robust sales pipeline and to ensure customer success that drives revenue growth.

Sales

Our sales efforts are built on a business model that is designed to capitalize on the ease of use, low up-front cost, flexible deployment and collaborative capabilities of our software. To facilitate rapid adoption of our products, we provide fully-functional free trial versions of our products on our website and offer a flexible pricing model. After an initial trial or purchase, which is often made to target a specific business need at a grassroots level within an organization, the use of our products often spreads across departments, divisions and geographies, via word-of-mouth, discovery of new use cases and our sales efforts.

Our direct sales approach includes inside sales and field sales teams. Our inside sales team, based in regional sales hubs, qualifies and manages accounts throughout the world to seed new sales at a low cost and expand these accounts over time. Our direct field sales team covers North America; Europe, Middle East and Africa; the Asia Pacific region; and Latin America, and is mainly responsible for lead qualification and account management for large enterprises. All our direct sales teams partner with technical sales representatives who provide presales technical support. We also have a dedicated customer renewals team responsible for driving renewals of existing contracts.

We also sell our products through indirect sales channels including technology vendors, resellers, OEMs, independent software vendors ("ISV") and distributors. These channel partners provide additional sales coverage and deliver solution-based selling, services and training throughout the world. Our channel program is led by a dedicated sales team that provides our channel partners with training, certification and sales resources. As of December 31, 2018, less than 10% of our sales team focused on indirect sales channels. We plan to continue to invest in our partner programs to help us enter and grow in new markets while complementing our direct sales efforts.

Our sales organization also includes professional services and training teams that work with customers of all sizes to support implementations and increase adoption. These efforts include in person and phone-based engagements, webinars, in-person training and free on-demand training.

Marketing

Our marketing efforts focus on establishing and enhancing our brand, generating awareness of our products, creating leads and cultivating the Tableau community. The marketing team consists primarily of marketing operations, demand generation, enterprise marketing, product marketing, programs, field events, channel marketing, corporate communications and visual design teams. We leverage both online and offline marketing channels such as events and trade shows, seminars and webinars, third-party analyst reports, whitepapers, case studies, blogs, search engines, email and social media marketing. A central focus for the marketing team is to drive free product trials and encourage use of our free online training, an integral part of our customer acquisition process. Our marketing team is responsible for the logistics of hosting various events, including our annual customer conferences and regional events, as well as providing Web-based community tools and supporting customer-driven user groups.

We believe the simplest way to showcase our products is by using them in live or recorded demonstrations. Our marketing team also promotes Tableau Public to generate awareness. By democratizing access to public data and facilitating sharing of insights online, Tableau Public has rapidly increased community engagement and extended the reach of our products. Tableau Public has reached over 1 billion cumulative views worldwide, and over 1 million visualizations have been published on Tableau Public to date.

Strategic Relationships

We view our partners as an extension of our team, playing an integral role in our growth. Our partner programs include technology partnerships, reseller arrangements, OEMs, ISVs and distributors. In addition, we also work closely with system integrators, consulting firms and training partners.

Technology Vendors

Our most important technology partnerships are with data platform vendors. We collaborate with these vendors to build high performance connectivity to their data sources. We have cultivated strong relationships with technology partners to help us extend the reach of our products. These partners include Alteryx, Inc., Amazon.com, Inc., Cloudera, Inc., Google, Informatica Corporation, Microsoft Corporation, Snowflake Computing, Inc. and Teradata Corporation.

Resellers/VARs

Most of our indirect sales are through resellers. In certain international markets, we rely more heavily on resellers than we do in the United States. Our reseller program is designed to support business growth, help generate new opportunities, optimize customer experience and care, increase profitability and close deals more quickly. We partner with value-added resellers ("VARs"), who provide vertical expertise and technical advice in addition to reselling or bundling our software. We qualify our partners carefully to help ensure that each has the necessary capabilities and technical expertise to allow us to deliver even greater value to our customers.

OEMs

We believe that software applications made by other companies can benefit from the analytical capabilities that our products can provide, and we continue to develop relationships with OEM partners that embed our software into their applications. These consist of both traditional OEMs that provide a customized version of our products for their applications as well as SaaS-based OEMs that deliver analytics as a service.

Research and Development

We invest substantial resources in research and development to drive core technology innovation and to bring new products and product enhancements to market. Our research and development organization, primarily located in the U.S., is predominantly responsible for design, development, testing and certification of our products and core technologies. Our mission-driven culture empowers our employees to take ownership and personal pride in building our products. We work hard to create an environment that satisfies our talents and intellectual curiosities while promoting the development of broadly impactful and transformative technologies.

We currently target product releases on a quarterly cycle. We also provide maintenance releases with bug fixes and incremental functionality if and when they become available. Our release cycles enable us to be responsive to customers by delivering new functionality on a frequent basis. We establish priorities for our organization by collaborating closely with our customers, community and employees. We use our products across all business functions at Tableau, from customer support to finance to sales and marketing to human resources, and every employee is encouraged to test and provide feedback.

Our founders conducted the original research that led to the development of VizQL at Stanford University. We actively invest in an internally focused research effort and collaborate with the research and academic community to keep current with cutting edge technologies and help us to stay at the forefront of innovation.

We are focused on hiring the top technical talent in the industry from top engineering programs and research institutions. Our talented engineers and computer scientists are focused on finding simple and elegant solutions to complex problems in information visualization, data analytics, user experience and distributed system design.

Competition

Our current primary competitors generally fall into the following categories:

- large technology companies, including suppliers of traditional business intelligence and data preparation products, and/or cloud-based offerings that provide one or more capabilities that are competitive with our products, such as Amazon.com, Inc., Google, IBM, Microsoft Corporation, Oracle Corporation, salesforce.com, inc. and SAP SE;
- business analytics software companies, such as MicroStrategy, Qlik and TIBCO Spotfire (a subsidiary of TIBCO Software Inc.); and
- providers of SaaS-based or cloud-based analytics products.

In addition, we may compete with open source initiatives and custom development efforts. We operate in a rapidly growing and rapidly changing market. As a result, we expect competition to continue to increase as other established and emerging companies enter the business analytics market, as customer requirements evolve and as new products and technologies are introduced. We expect this to be particularly true with respect to our SaaS-based offering. This is a relatively new and evolving area of business analytics solutions, and we anticipate competition to increase based on customer demand for these types of products.

Many of our competitors, particularly the large software companies named above, have longer operating histories, significantly greater financial, technical, marketing, distribution, professional services or other resources and greater name recognition than we do. In addition, many of our competitors have strong relationships with current and potential customers and extensive knowledge of the business analytics industry. As a result, they may be able to respond more quickly to new or emerging technologies and changes in customer requirements, for example by offering a SaaS-based product that competes with our on-premises products or our SaaS product, Tableau Online, or devote greater resources to the development, promotion and sale of their products than us. Moreover, many of these competitors are bundling their analytics products into larger deals or maintenance renewals, often at significant discounts. Increased competition may lead to price cuts, alternative pricing structures or the introduction of products available for free or a nominal price, fewer customer orders, reduced gross margins, longer sales cycles and loss of market share. We may not be able to compete successfully against current and future competitors, and our business, results of operations and financial condition will be harmed if we fail to meet these competitive pressures.

Our ability to compete successfully in our market depends on a number of factors, both within and outside of our control. Some of these factors include ease and speed of product deployment and use, discovery and visualization capabilities, analytical and statistical capabilities, performance and scalability, the quality and reliability of our customer service and support, total cost of ownership, return on investment and brand recognition. Any failure by us to compete successfully in any one of these or other areas may reduce the demand for our products, as well as adversely affect our business, results of operations and financial condition.

Moreover, current and future competitors may also make strategic acquisitions or establish cooperative relationships among themselves or with others. By doing so, these competitors may increase their ability to meet the needs of our customers or potential customers. In addition, our current or prospective indirect sales channel partners may establish cooperative relationships with our current or future competitors. These relationships may limit our ability to sell or certify our products through specific distributors, technology providers, database companies and distribution channels and allow our competitors to rapidly gain significant market share. These developments could limit our ability to obtain revenues from existing and new customers and to maintain maintenance services revenues from our existing and new customers. If we are unable to compete successfully against current and future competitors, our business, results of operations and financial condition would be harmed.

Intellectual Property

We rely on federal, state, common law and international rights, as well as contractual restrictions, to protect our intellectual property. We control access to our proprietary technology by entering into confidentiality and invention assignment agreements with our employees and contractors, and confidentiality agreements with third parties, such as service providers, vendors, individuals and entities that may be exploring a business relationship with us.

In addition to these contractual arrangements, we also rely on a combination of trade secrets, copyrights, patents, trademarks, service marks and domain names to protect our intellectual property. We pursue the

registration of our copyrights, trademarks, service marks and domain names in the United States and in certain locations outside the United States.

As of December 31, 2018, we had 40 issued U.S. patents covering our technology and 95 patent applications pending for examination in the United States. Internationally, we had two issued patents in Australia and 15 pending patent applications as of December 31, 2018 including filings at the European Patent Office and in Canada and Australia. We own registered trademarks for Tableau, Tableau Software, the Tableau Logo, the Tableau Software Logo, Tableau Doctor, VizQL, Show Me! and Data In. Brilliance Out. in the United States. We also own trademark registrations for Tableau, Tableau Software, the Tableau Logo, the Tableau Software Logo, VizQL and Show Me! in Canada and China; Tableau Software, the Tableau Logo, the Tableau Software Logo, Tableau Doctor, VizQL and Show Me! in Japan and the European Union; Tableau, Tableau Software, the Tableau Logo, the Tableau Software Logo, Tableau Doctor and VizQL in Australia; Tableau, Tableau Software, the Tableau Logo, the Tableau Software Logo and VizQL in Korea and Mexico; Tableau, the Tableau Logo, VizQL and Show Me! in Norway; Tableau, TABLEAUSOFTWARE, the Tableau Software Logo and VIZQL in Brazil; Tableau, the Tableau Logo and VizQL in Chile; Tableau, the Tableau Logo and VizQL in Hong Kong; Tableau, Tableau Software, the Tableau Software Logo and VizQL in India; Tableau, the Tableau Logo, Show Me! and VizQL in Israel; Tableau, Tableau Doctor, Show Me! and VizQL in Singapore; Tableau, Tableau Software, the Tableau Software Logo, the Tableau Logo and VizQL in South Africa; Show Me!, Tableau Doctor and VizQL in the United Kingdom; and Tableau, the Tableau Logo, VizQL and ShowMe! in Switzerland. Such registered trademarks will expire unless renewed at various times in the future.

Despite our efforts to protect our proprietary technology and our intellectual property rights, unauthorized parties may attempt to copy or obtain and use our technology to develop applications with the same functionality as our applications. Policing unauthorized use of our technology and intellectual property rights is difficult.

We expect that software and other applications in our industry may be subject to third-party infringement claims as the number of competitors grows and the functionality of applications in different industry segments overlaps. Any of these third parties might make a claim of infringement against us at any time.

Corporate Information

We were formed as Tableau Software LLC, a Delaware limited liability company, in 2003, and incorporated as Tableau Software, Inc., a Delaware corporation in 2004. Our principal executive offices are located at 1621 North 34th Street, Seattle, Washington 98103, and our telephone number is (206) 633-3400. Our website address is www.tableau.com. The information on, or that can be accessed through, our website is not part of this report.

Available Information

We file annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy and information statements and amendments to reports filed or furnished pursuant to Sections 13(a), 14 and 15(d) of the Exchange Act. The SEC maintains a website at <http://www.sec.gov> that contains reports, proxy and information statements and other information regarding Tableau Software and other companies that file materials with the SEC electronically. Copies of Tableau's reports on Form 10-K, Forms 10-Q and Forms 8-K, may be obtained, free of charge, electronically through our internet website, <http://investors.tableau.com/financial-information/default.aspx>.

ITEM 1A. RISK FACTORS

Our operations and financial results are subject to various risks and uncertainties, including those described below. You should carefully consider the following risks and all of the other information contained in this report, including our consolidated financial statements and related notes, before making an investment decision. While we believe that the risks and uncertainties described below are the material risks currently facing us, additional risks that we do not yet know of or that we currently think are immaterial may also arise and materially affect our business. If any of the following risks materialize, our business, financial condition and results of operations could be materially and adversely affected. In that case, the trading price of our Class A common stock could decline, and you may lose some or all of your investment.

Risks Related to Our Business and Industry

Due to our growth, we have a limited operating history at our current scale, which makes it difficult to evaluate our future prospects and may increase the risk that we will not be successful.

We have a relatively short history operating our business at its current scale. We continue to increase the number of our employees and expand our operations worldwide. Furthermore, we operate in an industry that is characterized by rapid technological innovation, intense competition, changing customer needs and frequent introductions of new products, technologies and services. We have encountered, and will continue to encounter, risks and uncertainties frequently experienced by growing companies in evolving industries. If our assumptions regarding these risks and uncertainties, which we use to plan our business, are incorrect or change in reaction to changes in the market, or if we do not address these risks successfully, our operating and financial results could differ materially from our expectations, and our business could suffer.

Our future success will depend in large part on our ability to, among other things:

- manage the transition to a subscription-based business model successfully;
- improve the performance and capabilities of our software;
- compete with other companies, custom development efforts and open source initiatives that are currently in, or may in the future enter, the market for our software;
- increase the number and value of enterprise sales transactions;
- maintain and improve the security, governance and compliance of our software technology and infrastructure;
- expand the availability of our software on public cloud service providers;
- hire, integrate, train and retain skilled talent, including members of our direct sales force and software engineers;
- maintain and expand our business, including our operations, infrastructure and processes to support our growth, both domestically and internationally;
- expand our customer base, both domestically and internationally;
- renew maintenance and subscription agreements with, and sell additional products to, existing customers, including enterprise customers;
- price and package our product and service offerings successfully;
- maintain high customer satisfaction and ensure quality and timely releases of our products and product enhancements;
- maintain, expand and support our indirect sales channels and strategic partner network;
- increase market awareness of our products and enhance our brand; and
- maintain compliance with applicable governmental regulations and other legal obligations, including those related to intellectual property, data protection and privacy, security, international sales and taxation.

If we fail to address the risks and difficulties that we face, including those associated with the challenges listed above as well as those described elsewhere in this "Risk Factors" section, our business will be adversely affected and our results of operations will suffer.

If we fail to successfully manage the transition to a subscription-based business model, our results of operations could be negatively impacted.

We are currently transitioning to a more subscription-based business model. In April 2018, we introduced role-based subscription offerings to help organizations scale analytics. Tableau Creator, Explorer and Viewer subscriptions each provide tailored combinations of our products' analytical capabilities that are designed for different user needs, from sophisticated analysts to casual users. It is still uncertain whether this transition will

prove successful or whether we will be able to develop this business model more quickly than our competitors. Market acceptance of our product and service offerings will be dependent on our ability to (1) continue to innovate and include new functionality and improve usability of our products in a manner that addresses our customers' needs and requirements, and (2) optimally price our products in light of marketplace conditions, competition, our costs and customer demand. This transition may have negative revenue and/or cash flow implications. If we are unable to effectively meet these challenges, our business could be harmed.

This subscription strategy may give rise to a number of risks, including the following:

- our revenues and cash flows may fluctuate more than anticipated as a result of this strategy;
- if new or current customers desire only perpetual licenses, our subscription sales may lag behind our expectations;
- the shift to a subscription strategy may raise concerns among our customer base, including concerns regarding changes to pricing over time and our ability to provide maintenance services including timely upgrades, updates and enhancements;
- we may be unsuccessful in maintaining or implementing our target pricing or new pricing models, product adoption and projected renewal rates, or we may select a target price or new pricing model that is not optimal and could negatively affect our sales or earnings;
- our customers have and may continue to shift purchases to our lower priced subscription offerings, which could negatively affect our financial results;
- our shift to a subscription licensing model may result in confusion among new or existing customers (which can slow adoption rates), partners, resellers and investors;
- if our customers do not renew their subscriptions, our revenue may decline and our business may suffer;
- our relationships with existing partners that resell perpetual license products may be damaged; and
- we may incur sales compensation costs at a higher than forecasted rate if the pace of our subscription transition is faster than anticipated.

We derive substantially all of our revenues from a limited number of software products.

We currently derive and expect to continue to derive substantially all of our revenues from our Tableau Desktop, Tableau Server and Tableau Online software products. In April 2018, we released Tableau Prep, a new data preparation product that integrates directly into the Tableau analytical workflow. The continued growth in market demand of these software products, along with our ability to rapidly innovate and introduce new products to contribute to our revenues, is critical to our continued success. Demand for our software is affected by a number of factors, including continued market acceptance of our products, our ability to effectively introduce new products and features, the timing of development and release of new products by our competitors, price or product packaging changes by us or by our competitors, technological change, growth or contraction in the traditional and expanding business analytics market and general economic and political conditions and trends. If our competitors offer products or functionality similar to ours at more attractive prices, we may have to reduce our prices, which may cause our revenues to decline. Further, if we are unable to continue to meet customer demands or to achieve more widespread market acceptance of our software, or we cannot successfully meet our customers' needs or innovate and deliver additional products or features in a timely manner, our business, results of operations, financial condition and growth prospects could be materially and adversely affected.

If our new products and product enhancements do not achieve sufficient market acceptance, our results of operations and competitive position will suffer.

We spend substantial amounts of time and money to research and develop new software and enhanced versions of our existing software to incorporate additional features, improve functionality, function in concert with new technologies or changes to existing technologies and allow our customers to analyze a wide range of data sources and work with different kinds of data sets. For example, in April 2018, we released Tableau Prep, a new data preparation product that integrates directly into the Tableau analytical workflow. We also invest in acquiring and integrating new technologies to continue to improve our platform. For example, in January 2018, we released Hyper, our in-memory data engine, which was a significant upgrade to our existing Hybrid Data Architecture.

When we develop a new product or an enhanced version of an existing product, we typically incur expenses and expend resources upfront to market, promote and sell the new offering. Therefore, when we develop and introduce new or enhanced products, such as Tableau Prep or Hyper, they must achieve high levels

of market acceptance in order to justify the amount of our investment in acquiring and integrating, developing and bringing them to market.

We may make changes to our software that our customers do not find useful. We may also discontinue certain features or products, begin to charge for certain features that are currently free or increase fees for any of our features or usage of our software. We may also face problems or challenges in connection with new product or feature introductions, including our ability to innovate and our ability to execute and deliver new products and new features in a timely manner.

Our new products or product enhancements and changes to our existing software could fail to attain sufficient market acceptance for many reasons, including:

- failure to predict market demand accurately in terms of software functionality and capability or to supply software that meets this demand in a timely fashion;
- inability to operate effectively with the technologies, systems or applications of our existing or potential customers;
- defects, errors or failures;
- negative publicity about their performance or effectiveness;
- delays in releasing our new software or enhancements to our existing software to the market, due to, among other things, our failure to execute in a timely manner on our development roadmap;
- the introduction or anticipated introduction of competing products by our competitors;
- an ineffective sales force;
- poor business conditions for our end-customers, causing them to delay purchases; and
- the reluctance of customers to purchase software incorporating open source software.

In addition, because our products are designed to operate on and with a variety of systems, we will need to continuously modify and enhance our products to keep pace with changes in technology. We may not be successful in either developing these modifications and enhancements or in bringing them to market in a timely fashion.

If our new software or enhancements and changes do not achieve adequate acceptance in the market, our competitive position will be impaired, and our revenues could decline. The adverse effect on our results of operations may be particularly acute because of the significant research, development, marketing, sales and other expenses we will have incurred in connection with the development and release of new software or enhancements.

We face intense competition, and we may not be able to compete effectively, which could reduce demand for our products and adversely affect our business, growth, revenues and market share.

The market for our products is intensely and increasingly competitive and subject to rapidly changing technology and evolving standards. In addition, many companies in our target market are offering, or may soon offer, products and services that may compete with our products.

Our current primary competitors generally fall into the following categories:

- large technology companies, including suppliers of traditional business intelligence and data preparation products, and/or cloud-based offerings that provide one or more capabilities that are competitive with our products, such as Amazon.com, Inc., Google, IBM, Microsoft Corporation, Oracle Corporation, salesforce.com, inc. and SAP SE;
- business analytics software companies, such as MicroStrategy, Qlik and TIBCO Spotfire (a subsidiary of TIBCO Software Inc.); and
- providers of SaaS-based or cloud-based analytics products.

In addition, we may compete with open source initiatives and custom development efforts. We expect competition to increase as other established and emerging companies enter the broader business analytics software market, including data preparation and data cataloging, as customer requirements evolve and as new products and technologies are introduced such as artificial intelligence and machine learning technologies. We expect this to be particularly true with respect to our SaaS-based offering. This is a relatively new and evolving area of business analytics solutions, and we anticipate competition to increase based on customer demand for these types of products.

Many of our competitors, particularly the large software companies named above, have longer operating histories, significantly greater financial, technical, marketing, distribution, professional services or other resources

and greater name recognition than we do. In addition, many of our competitors have strong relationships with current and potential customers and extensive knowledge of the business analytics industry. As a result, they may be able to respond more quickly to new or emerging technologies and changes in customer requirements, for example by offering and expanding capabilities of SaaS-based products that compete with our on-premises products and our SaaS product offerings, or devote greater resources to the development, promotion and sale of their products than we do. Moreover, many of these competitors are bundling their analytics products into larger deals or maintenance renewals, often at significant discounts. Increased competition may lead to price cuts, alternative pricing structures or the introduction of products available for free or a nominal price, fewer customer orders, reduced gross margins, longer sales cycles and loss of market share. We may not be able to compete successfully against current and future competitors, and our business, results of operations and financial condition will be harmed if we fail to meet these competitive pressures.

Our ability to compete successfully in our market depends on a number of factors, both within and outside of our control. Some of these factors include our ability to rapidly innovate and effectively execute to bring new products or features to the marketplace in a timely manner, and continue to develop and expand our products discovery and visualization capabilities, analytical and statistical capabilities, and performance and scalability. In addition, our ability to compete successfully depends on the quality and reliability of our maintenance, customer service and support, the value we provide to customers, and continuing to develop and enhance our overall brand recognition. Any failure by us to compete successfully in any one of these or other areas may reduce the demand for our products, as well as adversely affect our business, results of operations and financial condition.

Moreover, current and future competitors may also make strategic acquisitions or establish cooperative relationships among themselves or with others. By doing so, these competitors may increase their ability to meet the needs of our customers or potential customers. In addition, our current or prospective indirect sales channel partners may establish cooperative relationships with our current or future competitors. These relationships may limit our ability to sell or certify our products through specific distributors, technology providers, database companies and distribution channels and allow our competitors to rapidly gain significant market share. These developments could limit our ability to obtain revenues from existing and new customers and to maintain maintenance services revenues from our existing and new customers. If we are unable to compete successfully against current and future competitors, our business, results of operations and financial condition would be harmed.

Our success depends on increasing the number and value of enterprise sales transactions, which typically involve a longer sales cycle, greater deployment challenges and additional support and services than sales to individual purchasers of our products.

Growth in our revenues and achieving profitability depends in part on our ability to complete more and larger enterprise sales transactions. During 2018, we closed 1,749 sales transactions greater than \$100,000 compared to 1,593 sales transactions greater than \$100,000 in 2017, representing a 10% increase in the number of sales transactions greater than \$100,000. This metric is impacted by our transition to a more subscription-based business model as the unit sales prices of term and subscription licenses are lower than comparable perpetual licenses. These larger transactions may involve significant customer negotiation and are typically completed near the end of the quarter. Enterprise customers may undertake a significant evaluation process, which can last from several months to a year or longer. For example, in recent periods, excluding renewals, many of our transactions over \$100,000 have generally taken over three months to close. Any individual transaction may take substantially longer than three months to close. Events may occur during this period that affect the size or timing of a purchase or even cause cancellations, which may lead to greater unpredictability in our business and results of operations. We will spend substantial time, effort and money on enterprise sales efforts without any assurance that our efforts will produce any sales.

We may also face unexpected deployment challenges with enterprise customers or more complicated installations of our software platform. It may be difficult to deploy our software platform if the customer has unexpected database, hardware or software technology issues. Additional deployment complexities may occur if a customer hires a third party to deploy or implement our products or if one of our indirect sales channel partners leads the implementation of our products. In addition, enterprise customers may demand more configuration and integration services, which increase our upfront investment in sales and deployment efforts, with no guarantee that these customers will increase the scope of their use. As a result of these factors, we must devote a significant amount of sales support and professional services resources to individual customers, increasing the cost and time required to complete sales. Any difficulties or delays in the initial implementation, configuration or integration of

our products could cause customers to reject our software or lead to the delay in or failure to obtain future orders, which would harm our business, results of operations and financial condition.

We may not be able to sustain or increase our revenue growth rate, the growth rate of our customer base or achieve profitability in the future.

We have incurred net losses in recent periods. We expect expenses to continue to increase as we make investments in our sales and marketing and research and development organizations, expand our operations and infrastructure both domestically and internationally and develop new products and new features for and enhancements of our existing products.

Moreover, as we grow our business, we expect our revenue growth rates to continue to fluctuate in future periods due to a number of reasons, which may include slowing demand for our products, shifts in customer demand and spending on licenses for our products, shifts in sales of subscription-based versus perpetual licenses, increasing competition, a decrease in the growth of our overall market, our failure, for any reason, to continue to capitalize on growth opportunities, the maturation of our business or the decline in the number of organizations into which we have not already expanded. For all these reasons, we also cannot assure that our customer base will continue to grow at the same rate, or at all.

Additionally, our revenues for the year ended December 31, 2018, computed in accordance with the new revenue recognition standard, ASC 606, as compared to our revenues for the year ended December 31, 2017, computed in accordance with ASC 605, were positively impacted by our adoption of the new revenue recognition standard effective January 1, 2018. For example, prior to our adoption of the new revenue recognition standard, we historically recognized revenue related to on-premises term license agreements ratably over the term of the licensing agreement. Under the new revenue recognition standard, revenue allocable to the license portion of the arrangement is recognized upon delivery of the license. Accordingly, our historical results or revenue growth should not be considered indicative of our future performance. We have included financial results during 2018 under ASC 605 for comparison to the prior year. Beginning in 2019, financial results for 2019 and future years will not be presented on an ASC 605 basis.

Interruptions or performance problems associated with our technology and infrastructure, including those caused by cyber-attacks, may adversely affect our business and results of operations.

We have in the past experienced, and may in the future experience, performance issues due to a variety of factors, including infrastructure changes, human or software errors, website or third-party hosting disruptions or capacity constraints due to a number of potential causes including technical failures, cyber-attacks, security incidents, natural disasters or fraud. If our product or corporate security is compromised, our website is unavailable or our users are unable or unwilling due to performance problems to download our software within a reasonable amount of time or at all, our business could be negatively affected. Moreover, if our security measures, products or services are subject to cyber-attacks that degrade or deny the ability of users to access our website, Tableau Online, or other products or services, our products or services may be perceived as insecure, and we may incur significant legal and financial exposure. In particular, our cloud-based products, Tableau Online and Tableau Public, may be especially vulnerable to interruptions, performance problems or cyber-attacks. We continue to invest in the personnel, infrastructure and software solutions necessary to mitigate these risks. However, if we are unable to attract and retain personnel with the necessary cybersecurity expertise, or implement sufficient safeguarding measures, we may not be able to prevent all potentially disruptive events which could occur in the future. In some instances, we may not be able to identify the cause or causes of these events within an acceptable period of time. Our cloud-based products are hosted at third-party data centers that are not under our direct control. If these data centers were to be damaged or suffer disruption, our ability to provide these products to our customers could be impaired and our reputation could be harmed, and we may face legal action over the disruption, as well as incur additional compliance and information security costs to mitigate future disruptions. Moreover, if a significant security breach occurs with respect to an industry peer, our customers and potential customers may lose trust in the security of business intelligence or analytics platforms in general, which could adversely impact our ability to retain existing customers or attract new ones.

In addition, it may become increasingly difficult to maintain and improve our website performance, especially during peak usage times and as our software becomes more complex and our user traffic increases. Adverse consequences could include unanticipated system disruptions, slower response times, degradation in level of customer support, and impaired quality of users' experiences, and could result in customer dissatisfaction and the loss of existing customers. We expect to continue to make significant investments to maintain and improve website performance and security and to enable rapid and secure releases of new features and

applications for our software. To the extent that we do not effectively address capacity constraints, upgrade our systems as needed and continually develop our technology and network architecture to accommodate actual and anticipated changes in technology, our business and results of operations may be adversely affected.

We also rely on SaaS technologies from third parties in order to operate critical functions of our business, including financial management services from NetSuite Inc. and customer relationship management services from salesforce.com, inc. If these services become unavailable due to extended outages or interruptions, security vulnerabilities or cyber-attacks, or because they are no longer available on commercially reasonable terms or prices, our expenses could increase, our ability to manage these critical functions could be interrupted, we may not be able to report our financial results timely, and our processes for managing sales of our software and supporting our customers could be impaired until equivalent services, if available, are identified, obtained and implemented, all of which could adversely affect our business.

Real or perceived errors, failures, bugs or security flaws in our software could adversely affect our results of operations and growth prospects.

Because our software is complex, undetected errors, failures, bugs or security flaws may occur, especially when new versions or updates are released. Our software is often installed and used in large-scale computing environments with different operating systems, system management software and equipment and networking configurations, which may cause errors or failures of our software or other aspects of the computing environment into which it is deployed. In addition, deployment of our software into computing environments may expose undetected errors, compatibility issues, failures, bugs or security flaws in our software. Despite testing by us, errors, failures, bugs or security flaws may not be found in our software until it is released to our customers. Moreover, our customers could incorrectly implement or inadvertently misuse our software, which could result in customer dissatisfaction and adversely impact the perceived utility of our products as well as our brand. Any of these real or perceived errors, compatibility issues, failures, bugs or security flaws in our software could result in negative publicity, reputational harm, loss of or delay in market acceptance of our software, loss of competitive position or claims by customers for losses sustained by them. In such an event, we may be required, or may choose, for customer relations or other reasons, to expend additional resources in order to help correct the problem. Alleviating any of these problems could require significant expenditures of our capital and other resources and could cause interruptions, delays or cessation of our licensing, which could cause us to lose existing or potential customers and could adversely affect our results of operations and growth prospects.

If we are unable to identify, attract, integrate and retain additional qualified personnel, including executive, top sales and technical talent, our business could be adversely affected.

Our future success depends in part on our ability to identify, attract, integrate and retain highly skilled executive, technical, managerial and other personnel in our sales, marketing, operations and development groups. If we do not successfully integrate these or other new hires, it could impede or negatively impact our business operations and strategic direction including our sales execution, marketing and product development planning and implementation processes. We face intense competition for qualified individuals from numerous other companies, including other software and technology companies, many of whom have greater financial and other resources than we do. These companies also may provide more diverse opportunities and better chances for career advancement. Some of these characteristics may be more appealing to high-quality candidates than those we have to offer. In addition, new hires often require significant training and, in many cases, take significant time before they achieve full productivity. We may incur significant costs to attract and retain qualified personnel, including significant expenditures related to salaries and benefits and compensation expenses related to equity awards, and we may lose new employees to our competitors or other companies before we realize the benefit of our investment in recruiting and training them. Moreover, new employees may not be or become as productive as we expect, as we may face challenges in adequately or appropriately integrating them into our workforce and culture. In addition, as we move into new geographies, we will need to attract and recruit skilled personnel in those areas. We may face additional challenges in attracting, integrating and retaining international employees. If we are unable to attract, integrate and retain suitably qualified individuals who are capable of meeting our growing technical, operational, sales and managerial requirements, as well as executive leadership requirements, on a timely basis or at all, our business will be adversely affected.

Volatility or lack of positive performance in our stock price may also affect our ability to attract and retain our key employees. Certain senior management personnel and other key employees are vested in a substantial amount of stock or stock options. Employees may be more likely to leave us if the shares they own or the shares underlying their vested options have significantly appreciated in value relative to the original purchase prices of

the shares or the exercise prices of the options, or, conversely, if the exercise prices of the options that they hold are significantly above the market price of our common stock or the market price of our common stock decreases significantly, impacting the value of their unvested restricted stock unit awards. If we are unable to appropriately incentivize and retain our employees through equity compensation, or if we need to increase our compensation expenses in order to appropriately incentivize and retain our employees, our business, results of operations, financial condition and cash flows would be adversely affected.

We are dependent on the continued services and performance of our senior management and other key personnel, the loss of any of whom could adversely affect our business.

Our future success depends in large part on the continued contributions of our senior management and other key personnel. In particular, the leadership of key management personnel is critical to the successful management of our company, our ability to innovate and execute in the development and release of new products and features and our overall strategic direction. Our senior management and key personnel are all employed on an at-will basis, which means that they could terminate their employment with us at any time, for any reason and without notice. The loss of any of our key management personnel could significantly delay or prevent the achievement of our development and strategic objectives and adversely affect our business. We do not maintain "key person" insurance for any member of our senior management team or any of our other key employees.

As customers demand products that provide business analytics delivered via a SaaS model, our business could be adversely affected.

We believe that companies have begun to expect that key software be provided through a SaaS model. We have used and expect to use our current cash or future cash flows to fund further development of our Tableau Online product, and we may encounter difficulties that cause our costs to exceed our current expectations. Moreover, as demand increases, we will need to make additional investments in related infrastructure such as public cloud platforms, data centers, network bandwidth and technical operations personnel. All of these investments could negatively affect our operating results. Even if we make these investments, we may be unsuccessful in achieving significant market acceptance of this product. Moreover, sales of current or future SaaS offerings by our competitors could adversely affect sales of all of our existing products. In addition, increasing sales of our SaaS offering could cannibalize license sales of our on-premises offerings to our existing and prospective customers, which could negatively impact our overall sales growth. The migration of our customers to a SaaS model would also change the manner in which we recognize revenue, which could adversely affect our operating results and business operations.

Our success is highly dependent on our ability to further penetrate the existing market for business analytics software as well as the growth and expansion of that market.

Although the overall market for business analytics software is well-established, the market for business analytics software like ours is relatively new, rapidly evolving and unproven. Our future success will depend in large part on our ability to further penetrate the existing market for business analytics software, as well as the continued growth and expansion of what we believe to be an emerging market for analytics solutions and platforms that are faster, easier to adopt, easier to use and more focused on self-service capabilities. It is difficult to predict customer adoption and renewal rates, customer demand for our products, the size, growth rate and expansion of these markets, the entry of competitive products or the success of new or existing competitive products. Our ability to further penetrate the existing market and any expansion of the emerging market depends on a number of factors, including the cost, performance and perceived value associated with our products, as well as customers' willingness to adopt a different approach to data analysis. Furthermore, many potential customers have made significant investments in legacy business analytics software systems and may be unwilling to invest in new software. If we are unable to further penetrate the existing market for business analytics software, the emerging market for self-service analytics solutions fails to grow or expand, or either of these markets decreases in size, our business, results of operations and financial condition would be adversely affected.

Our quarterly results of operations may fluctuate significantly due to a wide range of factors, which makes our future results difficult to predict.

Our revenues and results of operations could vary significantly from quarter to quarter as a result of various factors, some of which are outside of our control:

- the timing of satisfying revenue recognition criteria, particularly with regard to large enterprise license agreements and other sales transactions, and as a result of our adoption of the new revenue standard on January 1, 2018;

- the transition from perpetual license transactions to term and subscription license transactions, which have lower unit sales prices than comparable perpetual licenses;
- the expansion of our customer base;
- the renewal of maintenance and subscription agreements with, and sales of additional products to, existing customers;
- seasonal variations in our sales, which have generally historically been highest in the fourth quarter of a calendar year and lowest in the first quarter;
- the size, timing and terms of our perpetual license sales to both existing and new customers;
- changes in the mix of term and subscription license sales versus perpetual license sales;
- the mix of direct sales versus sales through our indirect sales channels;
- the introduction of products and product enhancements, or the threat of such introduction, by existing competitors or new entrants into our market, and changes in pricing for products offered by us or our competitors;
- customers delaying purchasing decisions in anticipation of new products or product enhancements by us or our competitors or otherwise;
- changes in customers' budgets;
- customer acceptance of and willingness to pay for new versions of our products;
- cyber-attacks or incidents; and
- general economic and political conditions, both domestically and internationally, as well as economic conditions specifically affecting industries in which our customers operate.

Additional factors include:

- costs related to the hiring, training and retention of our direct sales force;
- the timing and growth of our business, in particular through our hiring of new employees and international expansion;
- seasonal variations related to sales and marketing and other activities, such as expenses related to our annual customer conferences;
- our ability to control costs, including our operating expenses; and
- tax consequences, such as those related to changes in tax laws, including the Tax Cuts and Jobs Act, tax rates or their interpretations and the related application of judgment in determining our global provision for income taxes, deferred tax assets or deferred tax liabilities.

Any one of these or other factors discussed elsewhere in this report may result in fluctuations in our revenues and operating results, meaning that quarter-to-quarter comparisons of our revenues, results of operations and cash flows may not necessarily be indicative of our future performance.

We may not be able to accurately predict our future revenues or results of operations. For example, a large percentage of the revenues we recognize each quarter has been attributable to sales made in the last month of that same quarter. Our license revenues in particular can be impacted by short-term shifts in customer demand and spending as license revenues from perpetual and on-premises term license sales are generally recognized upfront. As a result, our ability to forecast revenues on a quarterly or longer-term basis is limited. In addition, we base our current and future expense levels on our operating plans and sales forecasts, and our operating expenses are expected to be relatively fixed in the short term. Accordingly, we may not be able to reduce our costs sufficiently to compensate for an unexpected shortfall in revenues, and even a small shortfall in revenues could disproportionately and adversely affect our financial results for that quarter. The variability and unpredictability of these and other factors could result in our failing to meet or exceed financial expectations for a given period.

Our growth depends on being able to expand our direct sales force successfully.

In order to increase our revenues and profitability, we must increase the size of our direct sales force, both in the United States and internationally, to generate additional revenues from new and existing customers. We intend to further increase our number of direct sales professionals.

We believe that there is significant competition for sales personnel with the skills and technical knowledge that we require. Our ability to achieve revenue growth will depend, in large part, on our success in recruiting, training and retaining sufficient numbers of direct sales personnel to support our growth. New hires require significant training and may take significant time before they achieve full productivity. Our recent hires and planned hires may not become productive as quickly as we expect, and we may be unable to hire or retain sufficient numbers of qualified individuals in the markets where we do business or plan to do business. In addition,

as we continue to grow, a large percentage of our sales force may be new to our company and our products, which may adversely affect our sales if we cannot train our sales force quickly or effectively. Attrition rates may increase, and we may face integration challenges as we continue to seek to expand our sales force. If we are unable to hire and train sufficient numbers of effective sales personnel, or the sales personnel are not successful in obtaining new customers or increasing sales to our existing customer base, our business will be adversely affected.

We have been growing and expect to continue to invest in our growth for the foreseeable future. If we fail to manage this growth effectively, our business and results of operations will be adversely affected.

We intend to continue to grow our business. For example, we plan to continue to hire new employees, particularly in our sales and engineering groups including independent contributors, managers and group leaders. If we cannot adequately train these new employees, including our direct sales force, our sales productivity could be impacted, or our customers may lose confidence in the knowledge and capability of our employees. In addition, we are expanding internationally, establishing operations in additional countries outside the United States, and we intend to make substantial investments to continue our international expansion efforts. We must successfully manage our growth to achieve our objectives. Although our business has experienced significant growth in the past, we cannot provide any assurance that our business will continue to grow at any particular rate, or at all.

Our ability to effectively manage the growth of our business will depend on a number of factors, including our ability to do the following:

- effectively recruit, integrate, train and motivate a large number of new employees, including our direct sales force, while retaining existing employees, maintaining the beneficial aspects of our corporate culture and effectively executing our business plan;
- satisfy existing customers and attract new customers;
- successfully innovate and introduce new products and enhancements in a timely manner;
- continue to improve our operational, financial and management controls;
- protect and further develop our strategic assets, including our intellectual property rights; and
- make sound business decisions in light of the scrutiny associated with operating as a public company.

These activities will require significant capital expenditures and allocation of valuable management and employee resources, and our growth will continue to place significant demands on our management and our operational and financial infrastructure.

Our future financial performance and our ability to execute on our business plan will depend, in part, on our ability to effectively manage any future growth. There are no guarantees we will be able to do so in an efficient or timely manner, or at all. In particular, any failure to successfully implement new systems and/or enhancements and improvements to existing systems necessary to scale the business or adopt new accounting or other compliance requirements will likely negatively impact our ability to manage our expected growth (including the speed and efficiency of such growth), ensure uninterrupted operation of key business systems and comply with the rules and regulations that are applicable to public reporting companies. Moreover, if we do not effectively manage the growth of our business and operations, the quality of our software could suffer, which could negatively affect our brand, results of operations and overall business.

If we are unable to attract new customers and expand sales to existing customers, both domestically and internationally, our growth could be slower than we expect and our business may be harmed.

Our future growth depends in part upon increasing our customer base. Our ability to achieve growth in revenues in the future will depend, in large part, upon the effectiveness of our marketing efforts, both domestically and internationally, and our ability to attract new customers. This may be particularly challenging where an organization has already invested substantial personnel and financial resources to integrate traditional business intelligence products into its business, as such organization may be reluctant or unwilling to invest in a new product. If we fail to attract new customers and maintain and expand those customer relationships, our revenues could grow more slowly than expected, and our business could be harmed.

Our future growth also depends upon expanding sales of our products to and renewing license and maintenance agreements with existing customers and their organizations. This includes customers of all sizes and scales. If our customers do not purchase additional licenses or capabilities, our revenues may grow more slowly than expected, may not grow at all or may decline. Additionally, increasing incremental sales to our current

customer base requires increasingly sophisticated and costly sales efforts that are targeted at senior management. There can be no assurance that our efforts would result in expanding sales to existing customers and additional revenues. If our expansion sales efforts to our customers are not successful, our business would suffer. Our software is currently licensed and sold under perpetual, term and subscription license agreements, and we are currently transitioning to a more subscription-based business model. Due to the differences in unit sales prices of perpetual versus term or subscription license sales, shifts in the mix of term and subscription license sales could produce significant variations in the revenue we recognize in a given period. In addition, all of our maintenance services agreements are sold on a term basis. In order for us to grow our revenues and increase profitability, it is important that our existing customers renew their maintenance services agreements and their term licenses, if applicable, when the initial contract term expires. Our customers have no obligation to renew their term licenses or maintenance services contracts with us after the initial terms have expired. Our customers' renewal rates may decline or fluctuate as a result of a number of factors, including their satisfaction or dissatisfaction with our software or professional services, our pricing or pricing structure, the pricing or capabilities of products or services offered by our competitors, the effects of economic conditions, or reductions in our customers' spending levels. If our customers do not renew their agreements with us, or renew on terms less favorable to us, our revenues may decline.

Our international operations subject us to potentially adverse tax consequences.

We generally conduct our international operations through wholly-owned subsidiaries, branches and representative offices and report our taxable income in various jurisdictions worldwide based upon our business operations in those jurisdictions. Such corporate structures are subject to complex transfer pricing regulations administered by taxing authorities in various jurisdictions. The relevant taxing authorities may disagree with our determinations as to the income and expenses attributable to specific jurisdictions. If such a disagreement were to occur, and our positions were not sustained, we could be required to pay additional taxes, interest and penalties, resulting in higher effective tax rates, reduced cash flows and lower overall profitability of our operations. Additionally, our future worldwide tax rate and financial position may be affected by changes in the relevant tax laws, interpretation of such tax laws or the influence of certain tax policy efforts of the European Union and the Organization for Economic Co-operation and Development ("OECD").

Breaches in our security, cyber-attacks or other cyber-risks could expose us to significant liabilities and cause our business and reputation to suffer.

Our operations involve transmission and processing of our customers' confidential, proprietary and sensitive information including, in some cases, personally identifiable information and credit card information. We have legal and contractual obligations to protect the confidentiality and appropriate use of customer data. Despite our security measures, our information technology and infrastructure may be vulnerable to security risks, including but not limited to, unauthorized access to use or disclosure of customer data, theft of proprietary information, employee error or misconduct, denial of service attacks, loss or corruption of customer data, and computer hacking attacks or other cyber-attacks. Such events could expose us to substantial litigation expenses and damages, indemnity and other contractual obligations, government fines and penalties, mitigation expenses and other liabilities. Because techniques used to obtain unauthorized access or to sabotage systems change frequently and generally are not recognized until successfully launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. If an actual or perceived breach of our security occurs, the market perception of the effectiveness of our security measures could be harmed, our brand and reputation could be impacted, we could lose potential sales and existing customers, our ability to operate our business could be impaired, and we may incur significant liabilities. Moreover, failure to maintain effective internal accounting controls related to data security breaches and cybersecurity in general could impact our ability to produce timely and accurate financial statements and could subject us to regulatory scrutiny.

Our failure to adequately protect personal or sensitive information or to comply with data protection laws could have a material adverse effect on our business.

A wide variety of local, state, national and international laws, directives and regulations apply to the collection, use, retention, protection, disclosure, transfer and other processing of personal or sensitive data. These data protection and privacy-related laws and regulations continue to evolve and may result in ever-increasing regulatory and public scrutiny and escalating levels of enforcement and sanctions and increased costs of compliance. Our failure to comply with applicable laws and regulations, or to protect such data, could result in enforcement actions against us, including fines, imprisonment of company officials and public censure, claims for damages by stockholders, end-customers and other affected individuals, damage to our reputation and loss of

goodwill (in relation to stockholders, existing end-customers and prospective end-customers), any of which could have a material adverse effect on our operations, financial performance and business. Changing definitions of personal data, sensitive data and personal information, within the European Union, the United States and elsewhere, especially relating to classification of IP addresses, machine identification, location data and other information, may limit or inhibit our ability to operate or expand our business, including limiting strategic partnerships that may involve the sharing of data.

For example, on June 28, 2018, California enacted the California Consumer Privacy Act ("CCPA"), which takes effect on January 1, 2020. The CCPA gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing and receive detailed information about how their personal information is used. The CCPA also expands the definition of personal information used in most existing U.S. privacy laws. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches. The CCPA may increase our compliance costs and potential liability.

In the European Union, the General Data Protection Regulation ("GDPR") took effect on May 25, 2018, introducing new data protection requirements. The GDPR introduces strict requirements for processing personal data, including potentially burdensome documentation requirements, more stringent requirements for obtaining valid consent, obligations to honor expanded rights of individuals to control the use and retention of their personal data and requirements to notify regulators and affected individuals of certain personal data breaches. The GDPR has increased our responsibility and potential liability in relation to personal data that we process both on our own behalf and on behalf of our customers, increase our compliance costs and could restrict our operations in Europe.

Our products use third-party software and services that may be difficult to replace or cause errors or failures of our products that could lead to a loss of customers or harm to our reputation and our operating results.

We license third-party software and depend on services from various third parties for use in our products. In the future, this software or these services may not be available to us on commercially reasonable terms, or at all. Any loss of the right to use any of the software or services could result in decreased functionality of our products until equivalent technology is either developed by us or, if available from another provider, is identified, obtained and integrated, which could harm our business. In addition, any errors or defects in or failures of the third-party software or services could result in errors or defects in our products or cause our products to fail, which could harm our business and be costly to correct. Many of these providers attempt to impose limitations on their liability for such errors, defects or failures, and if enforceable, we may have additional liability to our customers or third-party providers that could harm our reputation and increase our operating costs.

We will need to maintain our relationships with third-party software and service providers and to obtain software and services from such providers that do not contain any errors or defects. Any failure to do so could adversely impact our ability to deliver effective products to our customers and could harm our operating results.

If we cannot maintain our corporate culture as we grow, we could lose the innovation, teamwork, passion and focus on execution that we believe contribute to our success, and our business may be harmed.

We believe that our corporate culture has been a critical component to our success. We have invested substantial time and resources in building our team. As we grow and mature as a public company, we may find it difficult to maintain our corporate culture. Any failure to preserve our culture could negatively affect our future success, including our ability to recruit and retain personnel and effectively focus on and pursue our corporate objectives.

Our success depends on our ability to maintain and expand our indirect sales channels.

Historically, we have used indirect sales channel partners, such as OEMs, technology partners, systems integrators and resellers. Indirect sales channel partners are becoming an increasingly important aspect of our business. Our future growth in revenues and profitability depends in part on our ability to identify, establish and retain successful channel partner relationships, which will take significant time and resources and involve significant risk.

We cannot be certain that we will be able to identify suitable indirect sales channel partners. To the extent we do identify such partners, we will need to negotiate the terms of a commercial agreement with them under which the partner would distribute our products. We cannot be certain that we will be able to negotiate commercially-attractive terms with any channel partner, if at all. In addition, all channel partners must be trained to distribute our products. In order to develop and expand our distribution channel, we must develop and improve our processes for channel partner introduction and training.

We also cannot be certain that we will be able to maintain successful relationships with any channel partners. These channel partners may not have an exclusive relationship with us and may offer customers the products of several different companies, including products that compete with ours. With or without an exclusive relationship, we cannot be certain that they will prioritize or provide adequate resources for selling our products. A lack of support by any of our channel partners may harm our ability to develop, market, sell or support our products, as well as harm our brand. There can be no assurance that our channel partners will comply with the terms of our commercial agreements with them, including for example compliance with the U.S. Foreign Corrupt Practices Act and U.S. export and trade controls, or will continue to work with us when our commercial agreements with them expire or are up for renewal. If we are unable to maintain our relationships with these channel partners, or these channel partners fail to live up to their contractual obligations, our business, results of operations and financial condition could be harmed.

Our long-term growth depends in part on being able to expand internationally on a profitable basis.

Historically, we have generated a substantial majority of our revenues from customers inside the United States and Canada. For example, approximately 69% of our total ASC 606 revenues for the year ended December 31, 2018 were derived from sales within the United States and Canada. We plan to continue to expand our international operations as part of our growth strategy. Our international operations subject us to a variety of risks and challenges, including:

- increased personnel, travel, infrastructure, legal compliance and regulation costs associated with having multiple international operations;
- management communication and integration problems resulting from geographic dispersion and language and cultural differences;
- sales and customer service challenges associated with operating in different countries;
- increased reliance on indirect sales channel partners outside the United States;
- longer payment cycles and difficulties in collecting accounts receivable or satisfying revenue recognition criteria, especially in emerging markets;
- increased financial accounting and reporting burdens and complexities;
- general economic or political conditions in each country or region;
- economic uncertainty around the world and adverse effects arising from economic interdependencies across countries and regions;
- uncertainty around how the United Kingdom's vote to exit the European Union, commonly referred to as "Brexit," will impact the United Kingdom's access to the European Union Single Market, the related regulatory environment, the global economy and the resulting impact on our business;
- compliance with foreign laws and regulations and the risks and costs of non-compliance with such laws and regulations;
- compliance with laws and regulations for foreign operations, including the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act, import and export control laws, tariffs, trade barriers, economic sanctions and other regulatory or contractual limitations on our ability to sell our software in certain foreign markets and the risks and costs of non-compliance;
- heightened risks of unfair or corrupt business practices in certain geographies and of improper or fraudulent sales arrangements that may impact financial results and result in restatements of financial statements and irregularities in financial statements;
- fluctuations in currency exchange rates and related effects on our results of operations;
- difficulties in transferring or, if we determine to do so, repatriating funds from or converting currencies in certain countries;
- the need for localized software and licensing programs;
- reduced protection for intellectual property rights in certain countries and practical difficulties and costs of enforcing rights abroad; and
- compliance with the laws of numerous foreign taxing jurisdictions and overlapping of different tax regimes.

Any of these risks could adversely affect our international operations, reduce our international revenues or increase our operating costs, adversely affecting our business, results of operations and financial condition and growth prospects.

For example, compliance with laws and regulations applicable to our international operations increases our cost of doing business in foreign jurisdictions. We may be unable to keep current with changes in government

requirements as they change from time to time. Failure to comply with these regulations could have adverse effects on our business. In addition, in many foreign countries it is common for others to engage in business practices that are prohibited by our internal policies and procedures or U.S. laws and regulations applicable to us. As we grow, we continue to implement compliance procedures designed to prevent violations of these laws and regulations. There can be no assurance that all of our employees, contractors, indirect sales channel partners and agents will comply with the formal policies we will implement, or applicable laws and regulations. Violations of laws or key control policies by our employees, contractors, channel partners or agents could result in delays in revenue recognition, financial reporting misstatements, fines, penalties, or the prohibition of the importation or exportation of our software and services and could have a material adverse effect on our business and results of operations.

We are obligated to develop and maintain proper and effective internal control over financial reporting. These internal controls may not be determined to be effective, which may adversely affect investor confidence in our company and, as a result, the value of our Class A common stock.

We are required, pursuant to Section 404 of the Sarbanes-Oxley Act, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting on an annual basis. This assessment includes disclosure of any material weaknesses identified by our management in our internal control over financial reporting. We are also required to have our independent registered public accounting firm issue an opinion on the effectiveness of our internal control over financial reporting on an annual basis. During the evaluation and testing process, if we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to assert that our internal control over financial reporting is effective.

If we are unable to assert that our internal control over financial reporting is effective, or if our independent registered public accounting firm is unable to express an opinion on the effectiveness of our internal control over financial reporting, we could lose investor confidence in the accuracy and completeness of our financial reports, which could cause the price of our common stock to decline, and we may be subject to investigation or sanctions by the SEC.

Our business is highly dependent upon our brand recognition and reputation, and the failure to maintain or enhance our brand recognition or reputation would likely adversely affect our business and results of operations.

We believe that maintaining and enhancing the Tableau brand identity and our reputation are critical to our relationships with our customers, including our user community, and channel partners and to our ability to attract new customers and channel partners. We also believe that the importance of our brand recognition and reputation will continue to increase as competition in our market continues to develop. Our success in this area will depend on a wide range of factors, some of which are beyond our control, including the following:

- the efficacy of our marketing efforts;
- our ability to continue to offer high-quality, innovative and error- and bug-free products;
- our ability to retain existing customers and obtain new customers;
- our ability to maintain high customer satisfaction;
- the quality and perceived value of our products;
- our ability to successfully differentiate our products from those of our competitors;
- actions of our competitors and other third parties;
- our ability to provide customer support and professional services;
- any misuse or perceived misuse of our products;
- positive or negative publicity;
- interruptions, delays or attacks on our website; and
- litigation- or regulatory-related developments.

Our brand promotion activities may not be successful or yield increased revenues.

Independent industry analysts often provide reviews of our products, as well as those of our competitors, and perception of our products in the marketplace may be significantly influenced by these reviews. If these reviews are negative, or less positive as compared to those of our competitors' products and services, our brand may be adversely affected.

Furthermore, negative publicity, whether or not justified, relating to events or activities attributed to us, our employees, our partners or others associated with any of these parties, may tarnish our reputation and reduce the value of our brand. Damage to our reputation and loss of brand equity may reduce demand for our products and

have an adverse effect on our business, operating results and financial condition. Moreover, any attempts to rebuild our reputation and restore the value of our brand may be costly and time consuming, and such efforts may not ultimately be successful.

Economic uncertainties or downturns could materially adversely affect our business.

Current or future economic uncertainties or downturns could adversely affect our business and results of operations. Negative conditions in the general economy both in the United States and abroad, including conditions resulting from changes in gross domestic product growth, the continued sovereign debt crisis, potential future government shutdowns, the U.S. government's failure to raise the debt ceiling, financial and credit market fluctuations (including changes in interest rates), the imposition of trade barriers and restrictions such as tariffs, political deadlock, natural catastrophes, warfare and terrorist attacks on the United States, Europe, the Asia Pacific region or elsewhere, could cause a decrease in business investments, including corporate spending on business analytics software in general and negatively affect the rate of growth of our business.

The inability of legislators to pass additional short- or longer-term spending bills could lead to additional shutdowns or other disruptions. In addition, general worldwide economic conditions could experience significant downturns and instability, including as a result of changes in global trade policies, such as Brexit developments in the United Kingdom, trade disputes and increased tariffs between the United States and China, or other political or economic developments. For example, Brexit has created substantial economic and political uncertainty, the impact of which depends on the terms of the United Kingdom's withdrawal from the European Union. This uncertainty may cause some of our customers or potential customers to curtail spending and may ultimately result in new regulatory and cost challenges to our United Kingdom and global operations. These conditions make it extremely difficult for our customers and us to forecast and plan future business activities accurately, and they could cause our customers to reevaluate their decisions to purchase our products, which could delay and lengthen our sales cycles or result in cancellations of planned purchases. Furthermore, during challenging economic times and/or during times of rising interest rates, our customers may tighten their budgets and face issues in gaining timely access to sufficient and/or affordable credit, which could result in an impairment of their ability to make timely payments to us. In turn, we may be required to increase our allowance for doubtful accounts, which would adversely affect our financial results.

To the extent purchases of our software are perceived by customers and potential customers to be discretionary, our revenues may be disproportionately affected by delays or reductions in general information technology spending. Also, customers may choose to develop in-house software as an alternative to using our products. Moreover, competitors may respond to market conditions by lowering prices and attempting to lure away our customers. In addition, the increased pace of consolidation in certain industries may result in reduced overall spending on our software.

We cannot predict the timing, strength or duration of any economic slowdown, instability or recovery, generally or within any particular industry. If the economic conditions of the general economy or industries in which we operate do not improve, or worsen from present levels, our business, results of operations, financial condition and cash flows could be adversely affected.

Failure to protect our intellectual property rights could adversely affect our business.

Our success depends, in part, on our ability to protect proprietary methods and technologies that we develop or license under patent and other intellectual property laws of the United States, so that we can prevent others from using our inventions and proprietary information. If we fail to protect our intellectual property rights adequately, our competitors might gain access to our technology, and our business might be adversely affected. However, defending our intellectual property rights might entail significant expenses. Any of our patent rights, copyrights, trademarks or other intellectual property rights may be challenged by others, weakened or invalidated through administrative process or litigation.

As of December 31, 2018, we had 40 issued U.S. patents covering our technology and 95 patent applications pending for examination in the United States. Internationally, we had two issued patents and 15 pending patent applications as of December 31, 2018 including filings at the European Patent Office and in Canada and Australia. The patents that we own or license from others (including those that have issued or may issue in the future) may not provide us with any competitive advantages or may be challenged by third parties, and our patent applications may never be granted.

Additionally, the process of obtaining patent protection is expensive and time-consuming, and we may not be able to prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner.

Even if issued, there can be no assurance that these patents will adequately protect our intellectual property, as the legal standards relating to the validity, enforceability and scope of protection of patent and other intellectual property rights are uncertain.

Any patents that are issued may subsequently be invalidated or otherwise limited, allowing other companies to develop offerings that compete with ours, which could adversely affect our competitive business position, business prospects and financial condition. In addition, issuance of a patent does not guarantee that we have a right to practice the patented invention. Patent applications in the United States are typically not published until 18 months after filing or, in some cases, not at all, and publications of discoveries in industry-related literature lag behind actual discoveries. We cannot be certain that third parties do not have blocking patents that could be used to prevent us from marketing or practicing our patented software or technology.

Effective patent, trademark, copyright and trade secret protection may not be available to us in every country in which our software is available. The laws of some foreign countries may not be as protective of intellectual property rights as those in the United States (in particular, some foreign jurisdictions do not permit patent protection for software), and mechanisms for enforcement of intellectual property rights may be inadequate. Additional uncertainty may result from changes to intellectual property legislation enacted in the United States, including the recent America Invents Act, and other national governments and from interpretations of the intellectual property laws of the United States and other countries by applicable courts and agencies. Accordingly, despite our efforts, we may be unable to prevent third parties from infringing upon or misappropriating our intellectual property.

We rely in part on trade secrets, proprietary know-how and other confidential information to maintain our competitive position. Although we endeavor to enter into non-disclosure agreements with our employees, licensees and others who may have access to this information, we cannot assure you that these agreements or other steps we have taken will prevent unauthorized use, disclosure or reverse engineering of our technology. Moreover, third parties may independently develop technologies or products that compete with ours, and we may be unable to prevent this competition.

We spend significant resources to monitor and protect our intellectual property rights. We may initiate claims or litigation against third parties for infringement of our proprietary rights or to establish the validity of our proprietary rights. Litigation also puts our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing. Additionally, we may provoke third parties to assert counterclaims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially viable. Any litigation, whether or not resolved in our favor, could result in significant expense to us and divert the efforts of our technical and management personnel, which may adversely affect our business, results of operations, financial condition and cash flows.

We may be subject to intellectual property rights claims by third parties, which are extremely costly to defend, could require us to pay significant damages and could limit our ability to use certain technologies.

Companies in the software and technology industries, including some of our current and potential competitors, own large numbers of patents, copyrights, trademarks and trade secrets and frequently enter into litigation based on allegations of infringement or other violations of intellectual property rights. In addition, many of these companies have the capability to dedicate substantially greater resources to enforce their intellectual property rights and to defend claims that may be brought against them. The litigation may involve patent holding companies or other adverse patent owners that have no relevant product revenues and against which our patents may therefore provide little or no deterrence. We have received, and may in the future receive, notices that claim we have misappropriated, misused, or infringed other parties' intellectual property rights, and, to the extent we gain greater market visibility, we face a higher risk of being the subject of intellectual property infringement claims, which is not uncommon with respect to the business analytics software market.

There may be third-party intellectual property rights, including issued or pending patents that cover significant aspects of our technologies or business methods. Any intellectual property claims, with or without merit, could be very time-consuming, could be expensive to settle or litigate and could divert our management's attention and other resources. These claims could also subject us to significant liability for damages, potentially including treble damages if we are found to have willfully infringed patents or copyrights. These claims could also result in our having to stop using technology found to be in violation of a third party's rights. We might be required to seek a license for the intellectual property, which may not be available on reasonable terms or at all. Even if a license were available, we could be required to pay significant royalties, which would increase our operating

expenses. As a result, we may be required to develop alternative non-infringing technology, which could require significant effort and expense. If we cannot license or develop technology for any infringing aspect of our business, we would be forced to limit or stop sales of our software and may be unable to compete effectively. Any of these results would adversely affect our business, results of operations, financial condition and cash flows.

Our use of open source software could negatively affect our ability to sell our software and subject us to possible litigation.

We use open source software in our software and expect to continue to use open source software in the future. We may face claims from others claiming ownership of, or seeking to enforce the license terms applicable to such open source software, including by demanding release of the open source software, derivative works or our proprietary source code that was developed using such software. These claims could also result in litigation, require us to purchase a costly license or require us to devote additional research and development resources to change our software, any of which would have a negative effect on our business and results of operations. In addition, if the license terms for the open source code change, we may be forced to re-engineer our software or incur additional costs. Finally, we cannot assure you that we have not incorporated open source software into our software in a manner that may subject our proprietary software to an open source license that requires disclosure, to customers or the public, of the source code to such proprietary software. Any such disclosure would have a negative effect on our business and the value of our software.

We are and may be subject to disputes and litigation for a variety of claims, which could adversely affect our results of operations, harm our reputation or otherwise negatively impact our business.

In addition to intellectual property disputes, we are subject to other claims arising from our normal business activities. These include claims, lawsuits or proceedings involving labor and employment, wage and hour, commercial agreements, alleged securities laws violations or other investor claims and other matters. The outcome of any disputes or litigation, regardless of its merits, is inherently uncertain. Any claims and lawsuits, and the disposition of such claims and lawsuits, could be time-consuming and expensive to resolve, divert management attention and resources and lead to attempts on the part of other parties to pursue similar claims. Any adverse determination related to litigation could require us to change our technology or our business practices, pay monetary damages or enter into royalty or licensing arrangements, which could adversely affect our results of operations and cash flows, harm our reputation or otherwise negatively impact our business.

Our success depends in part on maintaining and increasing our sales to customers in the public sector.

We derive a portion of our revenues from contracts with federal, state, local and foreign governments and agencies, and we believe that the success and growth of our business will continue to depend on our successful procurement of government contracts. Selling to government entities can be highly competitive, expensive and time consuming, often requiring significant upfront time and expense without any assurance that our efforts will produce any sales. Factors that could impede our ability to maintain or increase the amount of revenues derived from government contracts include:

- changes in fiscal or contracting policies;
- decreases in available government funding;
- changes in government programs or applicable requirements;
- the adoption of new laws or regulations or changes to existing laws or regulations;
- potential delays or changes in the government appropriations or other funding authorization processes;
- governments and governmental agencies requiring contractual terms that are unfavorable to us, such as most-favored-nation pricing provisions; and
- delays in the payment of our invoices by government payment offices.

The occurrence of any of the foregoing could cause governments and governmental agencies to delay or refrain from purchasing our software in the future or otherwise have an adverse effect on our business, results of operations, financial condition and cash flows.

Further, to increase our sales to customers in the public sector, we must comply with laws and regulations relating to the formation, administration, performance and pricing of contracts with the public sector, including U.S. federal, state and local governmental bodies, which affect how we and our channel partners do business in connection with governmental agencies. These laws and regulations may impose added costs on our business, and failure to comply with these laws and regulations or other applicable requirements, including non-compliance in the past, could lead to claims for damages from our channel partners or government customers, penalties,

termination of contracts, loss of intellectual property rights and temporary suspension or permanent debarment from government contracting. Any such damages, penalties, disruptions or limitations in our ability to do business with the public sector could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Acquisitions could disrupt our business and adversely affect our results of operations, financial condition and cash flows.

We may make acquisitions that could be material to our business, results of operations, financial condition and cash flows. Acquisitions involve many risks, including the following:

- an acquisition may negatively affect our results of operations, financial condition or cash flows because it may require us to incur charges or assume substantial debt or other liabilities, may cause adverse tax consequences or unfavorable accounting treatment, including potential write-downs of deferred revenues, may expose us to claims and disputes by third parties, including intellectual property claims and disputes, or may not generate sufficient financial return to offset additional costs and expenses related to the acquisition;
- we may encounter difficulties or unforeseen expenditures in integrating the business, technologies, products, personnel or operations of any company that we acquire, particularly if key personnel of the acquired company decide not to work for us;
- an acquisition may disrupt our ongoing business, divert resources, increase our expenses and distract our management;
- an acquisition may result in a delay or reduction of customer purchases for both us and the company we acquired due to customer uncertainty about continuity and effectiveness of service from either company;
- we may encounter difficulties in, or may be unable to, successfully sell any acquired products;
- an acquisition may involve the entry into geographic or business markets in which we have little or no prior experience or where competitors have stronger market positions;
- challenges inherent in effectively managing an increased number of employees in diverse locations;
- the potential strain on our financial and managerial controls and reporting systems and procedures;
- potential known and unknown liabilities or deficiencies associated with an acquired company that were not identified in advance;
- our use of cash to pay for acquisitions would limit other potential uses for our cash and affect our liquidity;
- if we incur debt to fund such acquisitions, such debt may subject us to material restrictions on our ability to conduct our business as well as financial maintenance covenants;
- the risk of impairment charges related to potential write-downs of acquired assets or goodwill in future acquisitions;
- to the extent that we issue a significant amount of equity or convertible debt securities in connection with future acquisitions, existing stockholders may be diluted and earnings per share may decrease; and
- managing the varying intellectual property protection strategies and other activities of an acquired company.

We may not succeed in addressing these or other risks or any other problems encountered in connection with the integration of any acquired business. The inability to integrate successfully the business, technologies, products, personnel or operations of any acquired business, or any significant delay in achieving integration, could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Governmental export or import controls could limit our ability to compete in foreign markets and subject us to liability if we violate them.

Our products are subject to U.S. export controls, and we incorporate encryption technology into certain of our products. These products and the underlying technology may be exported only with the required export authorizations, including by license, a license exception or other appropriate government authorizations. U.S. export controls may require submission of an encryption registration, product classification and annual or semi-annual reports. Governmental regulation of encryption technology and regulation of imports or exports of encryption products, or our failure to obtain required import or export authorization for our products, when

applicable, could harm our international sales and adversely affect our revenues. Compliance with applicable regulatory requirements regarding the export of our products, including with respect to new releases of our software, may create delays in the introduction of our product releases in international markets, prevent our customers with international operations from deploying our products or, in some cases, prevent the export of our products to some countries altogether. Furthermore, U.S. export control laws and economic sanctions prohibit the shipment of certain products and services to countries, governments and persons targeted by U.S. sanctions. If we fail to comply with export and import regulations and such economic sanctions, we may be fined or other penalties could be imposed, including a denial of certain export privileges. Moreover, any new export or import restrictions, new legislation or shifting approaches in the enforcement or scope of existing regulations, or in the countries, persons or technologies targeted by such regulations, could result in decreased use of our products by, or in our decreased ability to export or sell our products to, existing or potential customers with international operations. Any decreased use of our products or limitation on our ability to export or sell our products would likely adversely affect our business, financial condition and results of operations.

We may have additional tax liabilities, which could harm our business, operating results, financial condition and prospects.

Significant judgments and estimates are required in determining the provision for income taxes and other tax liabilities. Our tax expense may be impacted if our intercompany transactions, which are required to be computed on an arm's-length basis, are challenged and successfully disputed by the taxing authorities. Also, our tax expense could be impacted depending on the applicability of withholding taxes and other indirect taxes on software licenses and related intercompany transactions in certain jurisdictions. In determining the adequacy of income taxes, we assess the likelihood of adverse outcomes that could result if our tax positions were challenged by the Internal Revenue Service ("IRS") and other taxing authorities. The taxing authorities in the United States and other countries where we do business regularly examine our income and other tax returns. The ultimate outcome of any tax examination cannot be predicted with certainty. Should the IRS or other taxing authorities assess additional taxes as a result of an examination, we may be required to record charges to our operations.

Our tax rate may vary significantly depending on our stock price.

The tax effects of the accounting for share-based compensation may significantly impact our effective tax rate from period to period. In periods in which our stock price is higher than the grant price of the share-based compensation vesting in that period, we will recognize excess tax benefits that will decrease our effective tax rate. In future periods in which our stock price is lower than the grant price of the share-based compensation vesting in that period, our effective tax rate may increase. The amount and value of share-based compensation issued relative to our earnings in a particular period will also affect the magnitude of the impact of share-based compensation on our effective tax rate. These tax effects are dependent on our stock price, which we do not control, and a decline in our stock price could significantly increase our effective tax rate and adversely affect our financial results.

Natural or man-made disasters and other similar events may significantly disrupt our business and negatively impact our results of operations and financial condition.

Any of our facilities may be harmed or rendered inoperable by natural or man-made disasters, including earthquakes, tornadoes, hurricanes, wildfires, floods, nuclear disasters, acts of terrorism or other criminal activities, infectious disease outbreaks and power outages, which may render it difficult or impossible for us to operate our business for some period of time. Our facilities would likely be costly to repair or replace, and any such efforts would likely require substantial time. Any disruptions in our operations could negatively impact our business and results of operations and harm our reputation. In addition, we may not carry sufficient business insurance to compensate for losses that may occur. Any such losses or damages could have a material adverse effect on our business, results of operations and financial condition. In addition, the facilities of significant customers or major strategic partners may be harmed or rendered inoperable by such natural or man-made disasters, which may cause disruptions, difficulties or material adverse effects on our business.

Changes in financial accounting standards may cause adverse and unexpected impacts to our reported results of operations and financial condition.

We prepare our financial statements in conformity with accounting principles generally accepted in the United States ("GAAP"). These accounting principles are subject to interpretation or changes by the Financial Accounting Standards Board ("FASB") and the SEC. New accounting pronouncements and varying interpretations of accounting standards and practices have occurred in the past and are expected to occur in the future. A

change in accounting standards or practices could harm our operating results, reduce the comparability of our historical results and may even affect our reporting of transactions completed before the change is effective. Examples of new accounting pronouncements include the new revenue recognition standard, ASC 606, and the new lease accounting standard, ASC 842. We adopted ASC 606 effective January 1, 2018 on a modified retrospective basis. As further discussed in Note 2 of the accompanying notes to the consolidated financial statements, this standard significantly impacted our results for the year ended December 31, 2018 compared to prior years as it changed the way we recognize revenue and the timing of revenue recognition related to our on-premises term license agreements. Additionally, we will adopt ASC 842 using the modified retrospective transition method and apply a cumulative-effect balance sheet adjustment at the beginning of the first quarter of 2019. We expect the adoption of the new lease accounting standard will have a material impact to our consolidated balance sheet on the date of adoption, resulting in the recognition of significant right of use assets and operating lease liabilities. These or other changes to existing rules may harm our operating results and affect the comparability of our operating results and financial condition from period to period.

If currency exchange rates fluctuate substantially in the future, the results of our operations, which are reported in U.S. dollars, could be adversely affected.

The majority of our sales contracts have historically been denominated in U.S. dollars. A strengthening of the U.S. dollar could increase the real cost of our software to our customers outside of the United States, which could adversely affect our business, results of operations, financial condition and cash flows. As we continue to expand our international operations, we could have more sales contracts denominated in currencies other than the U.S. dollar, which would increase our exposure to the effects of foreign currency rate fluctuations. In addition, we incur expenses for employee compensation and other operating expenses at our non-U.S. locations in the local currency. Fluctuations in the exchange rates between the U.S. dollar and other currencies could result in the dollar equivalent of such expenses being higher. This could have a negative impact on our reported results of operations. Developments such as changes in U.S. trade policies and the outcome of the Brexit referendum have caused, and continue to cause, significant volatility in global stock markets and currency exchange rate fluctuations. We currently do not hedge our exposure to foreign currency exchange risks by engaging in foreign exchange hedging transactions, although we may do so in the future.

We are exposed to collection and credit risks, which could impact our operating results.

Our accounts receivable and contract assets are subject to collection and credit risks. These assets may include upfront purchase commitments for multiple years of subscription-based software licenses and maintenance services, which may be invoiced over multiple reporting periods increasing these risks. For example, our operating results may be impacted by significant bankruptcies among customers, which could negatively impact our revenues and cash flows. Although we have processes in place that are designed to monitor and mitigate these risks, we cannot guarantee these programs will be effective. If we are unable to adequately control these risks, our business, operating results and financial condition could be harmed.

Adverse economic or market conditions may harm our business or impact our investment portfolio.

We maintain an investment portfolio of various holdings, types, and maturities. These investments are subject to general credit, liquidity, market and interest rate risks, which may be exacerbated by unusual events that affect global financial markets. A significant part of our investment portfolio comprises U.S. government securities. If global credit and equity markets decline for long periods, or if there is a downgrade of the U.S. government credit rating due to an actual or threatened default on government debt, our investment portfolio may be adversely affected and we could determine that more of our investments have experienced an other-than-temporary decline in fair value, requiring impairment charges that could adversely affect our financial results.

We may require additional capital to fund our business and support our growth, and our inability to generate and obtain such capital on acceptable terms, or at all, could harm our business, operating results, financial condition and prospects.

We intend to continue to make substantial investments to fund our business and support our growth. In addition, we may require additional funds to respond to business challenges, including the need to develop new features or enhance our software, improve our operating infrastructure or acquire or develop complementary businesses and technologies. As a result, we may need to engage in equity or debt financings to provide the funds required for these and other business endeavors. If we raise additional funds through future issuances of equity or convertible debt securities, our existing stockholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences and privileges superior to those of holders of our common

stock. Any debt financing that we may secure in the future could involve restrictive covenants relating to our capital raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and to pursue business opportunities, including potential acquisitions. We may not be able to obtain such additional financing on terms favorable to us, if at all. If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, our ability to continue to support our business growth and to respond to business challenges could be significantly impaired, and our business may be adversely affected. In addition, our inability to generate or obtain the financial resources needed may require us to delay, scale back, or eliminate some or all of our operations, which may have a material adverse effect on our business, operating results, financial condition and prospects.

Risks Related to Ownership of Our Class A Common Stock

Our stock price has been and will likely continue to be volatile or may decline regardless of our operating performance, resulting in the potential for substantial losses for our stockholders.

The trading price for shares of our Class A common stock has been, and is likely to continue to be, volatile for the foreseeable future. For example, our Class A common stock's daily closing price on the New York Stock Exchange ranged from \$77.82 to \$132.96 during the 12-month period ended February 19, 2019. On February 19, 2019, the closing price of our Class A common stock was \$126.97.

The market price of our common stock may fluctuate significantly in response to numerous factors, many of which are beyond our control, including the factors listed below and other factors described in this "Risk Factors" section:

- actual or anticipated fluctuations in our results of operations;
- the financial projections we may provide to the public, any changes in these projections or our failure to meet these projections;
- failure of securities analysts to initiate or maintain coverage of our company, changes in financial estimates by any securities analysts who follow our company, or our failure to meet these estimates or the expectations of investors on a quarterly basis;
- ratings changes by any securities analysts who follow our company;
- announcements by us or our competitors of significant technical innovations, acquisitions, strategic partnerships, joint ventures or capital commitments;
- changes in operating performance and stock market valuations of other technology companies generally, or those in our industry in particular;
- price and volume fluctuations in the overall stock market, including as a result of trends in the economy as a whole;
- changes in our board of directors or management;
- sales of large blocks of our common stock, including sales by our executive officers, directors and significant stockholders;
- lawsuits threatened or filed against us;
- short sales, hedging and other derivative transactions involving our capital stock;
- general economic and political conditions in the United States and abroad;
- cyber-attacks or incidents; and
- other events or factors, including those resulting from war, incidents of terrorism or responses to these events.

In addition, stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many technology companies. Stock prices of many technology companies have fluctuated in a manner unrelated or disproportionate to the operating performance of those companies. In the past, stockholders have instituted securities class action litigation following periods of market volatility. Involvement in securities litigation could subject us to substantial costs, divert resources and the attention of management from our business and adversely affect our business, results of operations, financial condition and cash flows.

Substantial future sales of shares of our Class A common stock could cause the market price of our Class A common stock to decline.

Sales of a substantial number of shares of our Class A common stock into the public market, or the perception that these sales might occur, could depress the market price of our Class A common stock and could

impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that such sales may have on the prevailing market price of our common stock.

In addition, as of December 31, 2018, we had options outstanding that, if fully exercised, would result in the issuance of approximately 0.1 million and 1.8 million shares of Class A and Class B common stock, respectively. Our Class B common stock converts into Class A common stock on a one-for-one basis. All of the shares of Class A common stock issuable upon the exercise of options (or upon conversion of shares of Class B common stock issued upon the exercise of options) have been registered for public resale under the Securities Act of 1933, as amended (the "Securities Act"). Accordingly, these shares will be able to be freely sold in the public market upon issuance as permitted by any applicable vesting requirements.

Future sales and issuances of our capital stock or rights to purchase capital stock could result in dilution of the percentage ownership of our stockholders and could cause our stock price to decline.

We may issue additional securities in the future. Future sales and issuances of our capital stock or rights to purchase our capital stock could result in substantial dilution to our existing stockholders. We may sell Class A common stock, convertible securities and other equity securities in one or more transactions at prices and in a manner as we may determine from time to time. If we sell any such securities in subsequent transactions, investors may be materially diluted. New investors in such subsequent transactions could gain rights, preferences and privileges senior to those of holders of our Class A common stock.

If securities or industry analysts do not publish research or reports about our business, or publish negative reports about our business, our share price and trading volume could decline.

The trading market for our Class A common stock depends in part on the research and reports that securities or industry analysts publish about us or our business, our market and our competitors. We do not have any control over these analysts or their expectations regarding our performance on a quarterly or annual basis. If one or more of the analysts who cover us downgrade our shares or change their opinion of our shares, our share price would likely decline. If we fail to meet one or more of these analysts' published expectations regarding our performance on a quarterly basis, our share price or trading volume could decline. If one or more of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

The dual class structure of our common stock and the existing ownership of capital stock by our founders have the effect of concentrating voting control with our founders for the foreseeable future, which will limit the ability of our other investors to influence corporate matters.

Our Class B common stock has ten votes per share and our Class A common stock has one vote per share. As of December 31, 2018, the holders of shares of Class B common stock collectively beneficially owned shares representing approximately 60% of the voting power of our outstanding capital stock. Our founders collectively beneficially owned shares representing a majority of the voting power of our outstanding capital stock as of that date. Consequently, the holders of Class B common stock, including our founders, collectively control all matters submitted to our stockholders for approval. This concentrated control limits the ability of our other investors to influence corporate matters for the foreseeable future. For example, these stockholders control elections of directors, amendments of our certificate of incorporation or bylaws, increases to the number of shares available for issuance under our equity incentive plans or adoption of new equity incentive plans, and approval of any merger or sale of assets for the foreseeable future. This control may adversely affect the market price of our Class A common stock.

Future transfers by holders of Class B common stock will generally result in those shares converting to Class A common stock, which will have the effect, over time, of increasing the relative voting power of those holders of Class B common stock who retain their shares in the long-term, which may include our founders.

The requirements of being a public company may strain our resources, divert management's attention and affect our ability to attract and retain additional executive management and qualified board members.

As a public company, we are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act, the Dodd-Frank Act, the listing requirements of the New York Stock Exchange and other applicable securities rules and regulations. These laws, regulations and standards are subject to varying interpretations, and their application in practice may evolve over time as regulatory and governing bodies issue revisions to, or new interpretations of, these public company requirements. Such changes could result in continuing uncertainty regarding compliance matters and higher legal and financial costs necessitated by ongoing revisions to disclosure and governance practices. We will continue to invest resources to comply with evolving laws, regulations and

standards, and this investment may result in increased general and administrative expenses and a diversion of management's time and attention from revenue-generating activities to compliance activities. If our efforts to comply with new laws, regulations and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to their application and practice, regulatory authorities may initiate legal proceedings against us and our business may be adversely affected.

Being a public company under these rules and regulations has made it more expensive for us to obtain director and officer liability insurance, and in the future we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified executive officers or members of our board of directors, particularly to serve on our audit and compensation committees.

As a result of the disclosures within our filings with the SEC, information about our business and our financial condition is available to competitors and other third parties, which may result in threatened or actual litigation, including by competitors and other third parties. If such claims are successful, our business and results of operations could be adversely affected. Even if the claims do not result in litigation or are resolved in our favor, these claims, and the time and resources necessary to resolve them, could divert the resources of our management and adversely affect our business and results of operations.

We do not intend to pay dividends for the foreseeable future.

We have never declared or paid any cash dividends on our Class A or Class B common stock and do not intend to pay any cash dividends in the foreseeable future. We anticipate that we will retain all of our future earnings for use in the development of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our board of directors. Accordingly, investors must rely on sales of their Class A common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments.

Our share repurchase program may not achieve its objective to enhance long-term stockholder value and could increase the volatility of our stock price.

On November 1, 2016, we announced that our board of directors approved a stock repurchase program, under which we may repurchase up to \$200 million of our outstanding Class A common stock. On April 26, 2018, our board of directors authorized us to repurchase up to an additional \$300 million of our outstanding Class A common stock under our previously announced stock repurchase program. As of December 31, 2018, we had repurchased and retired 2,931,541 shares of our Class A common stock for a total of \$220.0 million and were authorized to repurchase up to a remaining \$280.0 million of our Class A common stock under the existing stock repurchase program. We cannot guarantee that our repurchase program will enhance long-term stockholder value. For example, the market price of our common stock may decline below the levels at which we repurchase our stock, and short-term stock price fluctuations could reduce the program's effectiveness. Our repurchases of common stock could also affect the market price of our common stock or increase its volatility. For example, the existence of a share repurchase program could cause our stock price to be higher than it would be in the absence of such a program and could potentially reduce the market liquidity for our stock. Additionally, the program does not obligate us to repurchase any dollar amount or number of shares of common stock and may be modified, suspended or discontinued at any time, and any of which could cause the market price of our stock to decline.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of our company more difficult, limit attempts by our stockholders to replace or remove our current management and limit the market price of our common stock.

Provisions in our certificate of incorporation and bylaws may have the effect of delaying or preventing a change of control or changes in our management. Our amended and restated certificate of incorporation and bylaws include provisions that:

- establish a classified board of directors so that not all members of our board of directors are elected at one time;
- permit the board of directors to establish the number of directors and fill any vacancies and newly-created directorships;
- provide that directors may only be removed for cause;
- require super-majority voting to amend some provisions in our certificate of incorporation and bylaws;

- authorize the issuance of "blank check" preferred stock that our board of directors could use to implement a stockholder rights plan;
- eliminate the ability of our stockholders to call special meetings of stockholders;
- prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of our stockholders;
- provide that the board of directors is expressly authorized to make, alter or repeal our bylaws; and
- establish advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted upon by stockholders at annual stockholder meetings.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with any holder of at least 15% of our capital stock for a period of three years following the date on which the stockholder became a 15% stockholder.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

We lease our principal executive offices, which are located in Seattle, Washington. We also lease additional space throughout North America, Europe and Asia Pacific. We believe that our properties are generally suitable to meet our needs for the foreseeable future. In addition, to the extent we require additional space in the future, we believe that it would be readily available on commercially reasonable terms.

ITEM 3. LEGAL PROCEEDINGS

In the ordinary course of business, we may be involved in various legal proceedings and claims related to intellectual property rights, commercial disputes, employment and wage and hour laws, alleged securities laws violations or other investor claims and other matters. For example, we have been, and may in the future be, put on notice and sued by third parties for alleged infringement of their proprietary rights, including patent infringement. We evaluate these claims and lawsuits with respect to their potential merits, our potential defenses and counter claims, and the expected effect on us of defending the claims and potential adverse result. We are not presently a party to any legal proceedings that in the opinion of our management, if determined adversely to us, would have a material adverse effect on our business, financial condition or operating results.

The outcome of any litigation, regardless of its merits, is inherently uncertain. Any claims and lawsuits, and the disposition of such claims and lawsuits, could be time-consuming and expensive to resolve, divert management attention from executing our business plan, lead to attempts on the part of other parties to make similar claims and require us to change our technology, change our business practices and pay monetary damages or enter into royalty or licensing agreements, which could materially adversely affect our financial condition or operating results.

We make a provision for a liability relating to a claim when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. When we make such provisions, they are reviewed at least quarterly and adjusted to reflect the impact of negotiations, settlements, rulings, advice of legal counsel and other information and events pertaining to a particular matter. In management's opinion, resolution of currently outstanding matters is not expected to have a material adverse impact on our consolidated results of operations, cash flows or financial position. However, depending on the nature and timing of any such dispute, an unfavorable resolution of the matter could materially affect our future results of operations or cash flows, or both, of a particular quarter.

ITEM 4. MINE SAFETY DISCLOSURE

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDERS MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information for Common Stock

Our Class A common stock is listed on the New York Stock Exchange under the symbol "DATA." Our Class B common stock is not listed or traded on any stock exchange.

Issuer Purchases of Equity Securities

The following table sets forth for the indicated period, share repurchases of our Class A common stock.

	Total Number of Shares Purchased ⁽¹⁾	Average Price Paid per Share	Total Number of Shares Purchased as part of Publicly Announced Program	Dollar Value of Shares that May Yet Be Purchased Under the Program (in thousands)
January 1, 2018 - January 31, 2018	—	\$ —	—	\$ 100,000
February 1, 2018 - February 28, 2018	317,261	81.97	317,261	73,993
March 1, 2018 - March 31, 2018	48,899	81.82	48,899	69,992
April 1, 2018 - April 30, 2018	—	—	—	369,992
May 1, 2018 - May 31, 2018	274,955	95.48	274,955	343,741
June 1, 2018 - June 30, 2018	37,966	98.90	37,966	339,986
July 1, 2018 - July 31, 2018	—	—	—	339,986
August 1, 2018 - August 31, 2018	228,510	104.73	228,510	316,055
September 1, 2018 - September 30, 2018	53,877	112.75	53,877	309,981
October 1, 2018 - October 31, 2018	—	—	—	309,981
November 1, 2018 - November 30, 2018	198,690	112.73	198,690	287,582
December 1, 2018 - December 31, 2018	60,438	125.85	60,438	279,976

(1) All repurchases were made as part of our publicly announced stock repurchase program. On November 1, 2016, we announced that our board of directors approved a stock repurchase program, under which we were authorized to repurchase up to \$200 million of our outstanding Class A common stock. On April 26, 2018, our board of directors authorized us to repurchase up to an additional \$300 million of our outstanding Class A common stock under our previously announced stock repurchase program. The repurchase program has no expiration date and may be modified, suspended or discontinued at any time. For further information regarding our stock repurchase program, see Note 6 of the accompanying notes to the consolidated financial statements.

Dividend Policy

We have never declared or paid cash dividends on our capital stock. We currently intend to retain any future earnings for use in the operation of our business and to repurchase shares and do not intend to declare or pay any cash dividends in the foreseeable future. Any further determination to pay dividends on our capital stock will be at the discretion of our board of directors, subject to applicable laws, and will depend on our financial condition, results of operations, capital requirements, general business conditions and other factors that our board of directors considers relevant.

Stockholders

As of February 19, 2019, there were eight stockholders of record of our Class A common stock, including The Depository Trust Company, which holds shares of our common stock on behalf of an indeterminate number of beneficial owners, as well as 12 stockholders of record of our Class B common stock.

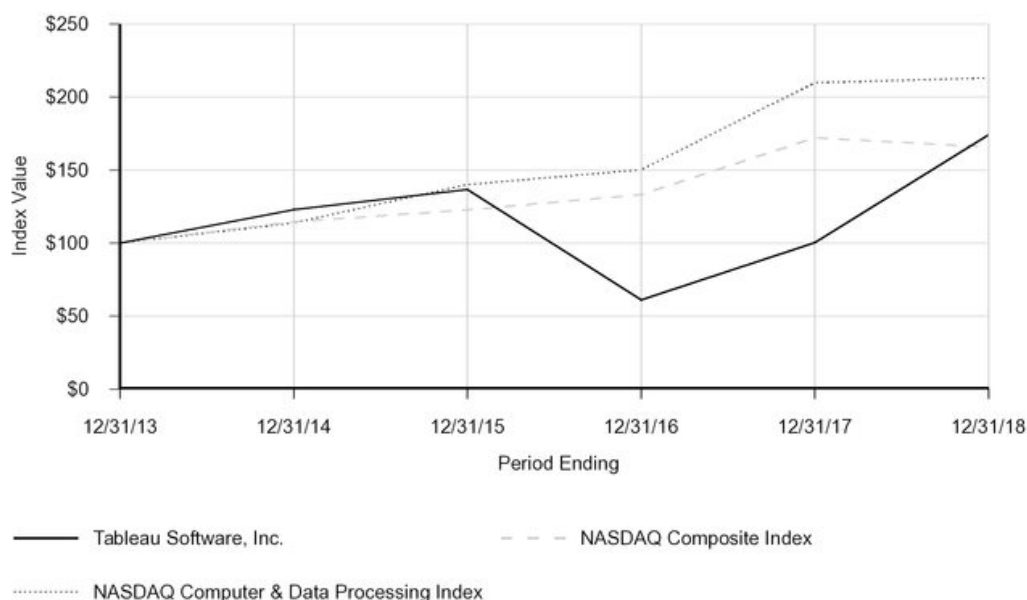
Stock Performance Graph

The following shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or incorporated by reference into any of our other filings under the Exchange Act or the Securities Act except to the extent we specifically incorporate it by reference into such filing.

This chart compares the cumulative total return on our common stock with that of the NASDAQ Composite Index and the NASDAQ Computer and Data Processing Services Index. The chart assumes \$100 was invested at the close of market on December 31, 2013, in our Class A common stock, the NASDAQ Composite Index and the NASDAQ Computer and Data Processing Services Index, and assumes the reinvestment of any dividends. The stock price performance on the following graph is not necessarily indicative of future stock price performance.

The closing price of our Class A common stock on December 31, 2018 was \$120.00 per share.

Comparison of 60 Month Cumulative Total Return



Company/Index	12/31/13	12/31/14	12/31/15	12/31/16	12/31/17	12/31/18
Tableau Software, Inc.	\$ 100.00	\$ 122.97	\$ 136.69	\$ 61.15	\$ 100.39	\$ 174.09
NASDAQ Composite Index	100.00	114.62	122.81	133.19	172.11	165.84
NASDAQ Computer & Data Processing Index	100.00	113.68	140.03	150.12	209.72	212.97

ITEM 6. SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated historical financial data are derived from our audited financial statements. The consolidated balance sheet data as of December 31, 2018 and 2017 and the consolidated statement of operations data for the years ended December 31, 2018, 2017 and 2016 are derived from our audited consolidated financial statements and related notes that are included elsewhere in this Form 10-K. The consolidated balance sheet data as of December 31, 2016, 2015 and 2014 and the consolidated statement of operations for the years ended December 31, 2015 and 2014 are derived from our audited consolidated financial statements and related notes which are not included in this report. We adopted the new revenue recognition accounting standard, ASC 606, effective January 1, 2018 on a modified retrospective basis. Financial results for 2018 are presented in compliance with the new revenue recognition standard. Historical financial results for reporting periods prior to 2018 have not been retroactively restated and are presented in conformity with amounts previously disclosed under ASC 605. The selected consolidated financial data below includes the presentation of financial results for 2018 under ASC 605 for comparison to the prior year. The information set forth below should be read in conjunction with our historical financial statements, including the notes thereto, and "Management's Discussion and Analysis of Financial Condition and Results of Operations," included elsewhere in this report.

	Year Ended December 31,					
	2018		2017		2016	
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
(in thousands, except per share data)						
Consolidated Statements of Operations						
Data:						
Revenues						
License	\$ 555,581	\$ 498,050	\$ 429,204	\$ 481,659	\$ 423,766	\$ 279,944
Maintenance and services	599,771	484,899	447,855	345,284	229,821	132,672
Total revenues	1,155,352	982,949	877,059	826,943	653,587	412,616
Cost of revenues						
License	21,407	20,923	13,534	7,003	3,852	1,211
Maintenance and services	121,217	121,731	100,025	92,087	69,833	35,774
Total cost of revenues ⁽¹⁾	142,624	142,654	113,559	99,090	73,685	36,985
Gross profit	1,012,728	840,295	763,500	727,853	579,902	375,631
Operating expenses						
Sales and marketing ⁽¹⁾	593,786	620,554	517,446	476,506	356,723	216,672
Research and development ⁽¹⁾	382,886	382,886	334,148	302,759	204,131	110,923
General and administrative ⁽¹⁾	125,805	125,686	102,871	88,149	71,078	41,712
Total operating expenses	1,102,477	1,129,126	954,465	867,414	631,932	369,307
Operating income (loss)	(89,749)	(288,831)	(190,965)	(139,561)	(52,030)	6,324
Other income, net	17,872	17,826	12,266	2,134	1,223	858
Income (loss) before income tax expense	(71,877)	(271,005)	(178,699)	(137,427)	(50,807)	7,182
Income tax expense	5,165	6,233	6,861	7,022	32,893	1,309
Net income (loss)	\$ (77,042)	\$ (277,238)	\$ (185,560)	\$ (144,449)	\$ (83,700)	\$ 5,873
Net income (loss) per share:						
Basic	\$ (0.93)	\$ (3.36)	\$ (2.35)	\$ (1.92)	\$ (1.17)	\$ 0.09
Diluted	\$ (0.93)	\$ (3.36)	\$ (2.35)	\$ (1.92)	\$ (1.17)	\$ 0.08
Weighted average shares used to compute net income (loss) per share:						
Basic	82,632	82,632	78,869	75,162	71,701	67,591
Diluted	82,632	82,632	78,869	75,162	71,701	74,319

(1) Includes stock-based compensation expense as follows:

	Year Ended December 31,				
	2018	2017	2016	2015	2014
	(in thousands)				
Cost of revenues	\$ 13,392	\$ 11,029	\$ 10,595	\$ 7,031	\$ 2,227
Sales and marketing	87,105	74,065	68,411	45,205	18,203
Research and development	111,965	104,280	91,044	55,269	20,794
General and administrative	26,269	20,909	15,662	11,963	5,794

As of December 31,					
2018		2017	2016	2015	2014
As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
(in thousands)					

Consolidated Balance Sheet Data:

Cash and cash equivalents	\$	653,022	\$	653,022	\$	627,878	\$	908,717	\$	795,900	\$	680,613
Short-term and long-term investments		395,633		395,633		375,151		—		—		—
Property and equipment, net		94,537		94,537		106,753		106,637		72,350		45,627
Working capital		867,143		546,658		526,489		722,903		672,138		629,987
Total assets		1,634,725		1,481,703		1,398,795		1,287,199		1,030,711		865,662
Deferred revenue, including long-term portion		394,198		605,640		447,484		312,473		198,511		129,810
Total liabilities		621,140		830,818		645,172		495,351		296,766		193,656
Total stockholders' equity		1,013,585		650,885		753,623		791,848		733,945		672,006

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes appearing elsewhere in this Annual Report. This discussion contains forward-looking statements that reflect our plans, estimates and beliefs, and involve risks and uncertainties. Our actual results and the timing of certain events could differ materially from those anticipated in these forward-looking statements as a result of several factors, including those discussed in the section titled "Risk Factors" included under Part I, Item 1A and elsewhere in this Annual Report. See "Special Note Regarding Forward-Looking Statements" in this Annual Report.

Overview

Our mission is to help people see and understand data. Our software products put the power of data into the hands of everyday people, allowing a broad population of business users to engage with their data, ask questions, solve problems and create value. Based on innovative core technologies originally developed at Stanford University, our products dramatically reduce the complexity, inflexibility and expense associated with traditional business intelligence applications. We currently offer five key products: Tableau Desktop, a self-service, powerful analytics product for anyone with data; Tableau Server, a business intelligence platform for organizations; Tableau Online, a hosted software-as-a-service ("SaaS") version of Tableau Server; Tableau Prep, a data preparation product for combining, shaping and cleaning data; and Tableau Public, a free cloud-based platform for analyzing and sharing public data.

We were founded in January 2003, and we introduced Tableau Desktop in December 2003, our first version of Tableau Server in March 2007, our first version of Tableau Public in February 2010, our first version of Tableau Online in July 2013 and our first version of Tableau Prep in April 2018. Building on our foundational technology innovations, we continue to expand and improve our platform. For example, in February 2019, we released Tableau 2019.1 which introduced Ask Data, which leverages natural language processing to enable users to ask questions in plain language and get a visual response in Tableau. Also in February 2019, we released Tableau Prep Conductor, a new product that enables organizations to schedule and manage self-service data preparation at scale. Tableau Prep Conductor is part of a new subscription offering called the Tableau Data Management Add-On.

Our products are used by people of diverse skill levels across all kinds of organizations, including Fortune 500 corporations, small and medium-sized businesses, government agencies, universities, research institutions and non-profits. As of December 31, 2018, we had over 86,000 customer accounts. We define a customer account as a single purchaser of our products. Customer accounts are typically organizations. In some cases, organizations will have multiple groups purchasing our software, which we count as discrete customer accounts.

Our distribution strategy is designed to capitalize on the ease of use, low up-front cost, flexible deployment and collaborative capabilities of our software. To facilitate rapid adoption of our products, we provide fully-functional free trial versions of our products on our website and offer a flexible pricing model. After an initial trial or purchase, an organization has the flexibility to expand adoption of our products at any scale.

We generate revenues primarily in the form of software license fees and related maintenance and services fees. Software license revenues include fees from the sales of perpetual, term and subscription licenses to new and existing customers. Revenues from term and subscription licenses have been increasing in recent periods as we have been transitioning to a more subscription-based business model. Revenues from term and subscription licenses include license revenues from Tableau Online, enterprise license agreements, term license sales and OEM arrangements. We expect revenues from term and subscription licenses to continue to become a larger percentage of our total license revenues as demand from our customer base continues to shift to subscription-based products and as our customers enter into additional enterprise license agreements and renew their existing term and subscription license agreements.

Maintenance and services revenues primarily consist of revenues recognized from the sale of maintenance agreements (including support and unspecified upgrades and enhancements if and when they are available) and, to a lesser extent, for training and professional services that help our customers maximize the benefits from using our products. A substantial majority of our maintenance and services revenues to date have been attributable to revenues from maintenance agreements that are recognized ratably over the maintenance period. Our contracts with customers for on-premises software licenses include maintenance services, with the opportunity to renew maintenance service thereafter. Some customers provide purchase commitments upfront for

multiple years of term or subscription software licenses and maintenance services. We expect that maintenance and services revenues will continue to increase as our customer base grows. We expect that this growth, combined with the shift to a more subscription-based business model, will result in a larger proportion of our total revenues that will be recognized from recurring sources.

We adopted the new revenue recognition accounting standard, ASC 606, effective January 1, 2018 on a modified retrospective basis. Our results of operations as presented within the following discussion and analysis includes financial results for reporting periods during 2018, which are disclosed in compliance with the new revenue recognition standard. Historical financial results for reporting periods prior to 2018 have not been retroactively restated and are presented in conformity with amounts previously disclosed under the prior revenue recognition standard ASC 605. We have included additional information regarding the impacts from the adoption of the new revenue recognition standard for the year ended December 31, 2018 and included financial results during 2018 under ASC 605 for comparison to the prior year. Beginning in 2019, financial results for 2019 and future years will not be included on an ASC 605 basis. See Note 2 of the accompanying notes to the consolidated financial statements for additional information related to our adoption of the new revenue recognition standard.

Our direct sales approach includes inside sales teams and field sales teams. We also sell our products through indirect sales channels including technology vendors, resellers, OEMs, ISV partners and distributors. We view these partners as an extension of our team, playing an integral role in our growth. We plan to continue to invest in our partner programs to help us enter into new markets and grow in new and existing markets while complementing our direct sales efforts.

With approximately 31% of our total ASC 606 revenues generated from customers located outside the United States and Canada for the year ended December 31, 2018, we believe there is significant opportunity to expand our international business. Our products currently support eight languages, and we are expanding our direct sales force and indirect sales channels outside the United States.

Our quarterly results reflect seasonality in the sale of our products and services. Historically, we believe a pattern of increased software license sales in the fourth quarter, as a result of industry buying patterns, has positively impacted total revenues in that period, which has resulted in low or negative sequential revenue growth in the first quarter of each fiscal year compared to the prior quarter. The impacts from our adoption of the new revenue recognition standard should be considered when comparing total ASC 606 revenues for the year ended December 31, 2018 to total ASC 605 revenues for the year ended December 31, 2017. We have presented total ASC 605 revenues for the year ended December 31, 2018 throughout this section for comparability against the prior period results.

We continue to expand our customer base. As of December 31, 2018, we had over 86,000 customer accounts compared to over 70,000 customer accounts as of December 31, 2017 and over 54,000 customer accounts as of December 31, 2016.

During the years ended December 31, 2018, 2017 and 2016, we closed 1,749, 1,593 and 1,549 sales transactions greater than \$100,000, respectively. We anticipate that the quantity of sales transactions greater than \$100,000 will continue to fluctuate on a quarter by quarter basis. This metric is impacted by our transition to a more subscription-based business model as the unit sales prices of term and subscription licenses are lower than comparable perpetual licenses.

We use Subscription Annual Recurring Revenue ("Subscription ARR") and Total Annual Recurring Revenue ("Total ARR") to assess the results of our transition to a more subscription-based business model. Subscription ARR represents the annualized recurring value of all active subscription contracts at the end of a reporting period. Subscription ARR includes term licenses and renewals, subscription enterprise license agreements and Tableau Online subscriptions and renewals, and excludes distribution OEM license agreements and perpetual-style enterprise license agreements. As of December 31, 2018, Subscription ARR was \$443.2 million, up from \$195.5 million as of December 31, 2017. Total ARR represents the annualized recurring value of all active contracts at the end of a reporting period. Total ARR includes Subscription ARR and the annualized value of all maintenance contracts related to perpetual licenses active at the end of a reporting period. As of December 31, 2018, Total ARR was \$840.9 million, up from \$596.2 million as of December 31, 2017.

We measure renewal rates for our customers over a 12-month period of time, based on a dollar renewal rate for contracts expiring during that time period. Our renewal rate is measured three months after the 12-month period ends to account for late renewals. Our renewal rate for the 12-month period ended September 30, 2018 was over 90%.

Factors Affecting Our Performance

We believe that our performance and future success are dependent upon a number of factors, including our ability to continue to expand and further penetrate our customer base; our ability to innovate and enhance our products; our ability to invest in our infrastructure; and shifts in the mix of term and subscription license sales versus perpetual license sales. While each of these areas presents significant opportunities for us, they also pose significant risks and challenges that we must successfully address. See the section of this report titled "Item 1A. Risk Factors."

Investment in Expansion and Further Penetration of Our Customer Base

Our performance depends on our ability to continue to attract new customers and to increase adoption of our products within our existing customer base, both domestically and internationally. Our ability to increase adoption among existing customers is important to our business model. We operate in a rapidly growing analytics and business intelligence software market. We believe that we are well-positioned in the market to expand our customer base and to increase adoption of our products within and across our existing customers, including further adoption of our term and subscription software licenses. Our term and subscription license offerings, including our role-based subscription offerings introduced in 2018, reduce initial investment costs which allows customers to more easily deploy Tableau at scale. We expect revenues from term and subscription licenses to continue to become a larger percentage of our total license revenues as demand from our customer base continues to shift to subscription-based products and as our customers enter into additional enterprise license agreements and renew their existing term and subscription license agreements.

In order to expand and further penetrate our customer base, we have made and plan to continue to make investments to grow our direct sales teams and indirect sales channels and to increase our brand awareness. We plan to continue to increase the size of our sales and marketing team domestically and internationally. We also intend to continue to expand our online and offline marketing efforts to increase our brand awareness.

Investment in Innovation and Advancement of Our Products

Our performance is also dependent on the investments we make in our research and development ("R&D") efforts and in our ability to continue to innovate, improve our platform, adapt to new technologies or changes to existing technologies and allow our customers to prep and analyze data from a large and expanding range of data stores. We intend to continue to invest in product innovation and leadership, including hiring top technical talent, focusing on core technology innovation, integrating acquired technologies and maintaining an agile organization that supports rapid release cycles.

Investment in Infrastructure

We have made and expect to continue to make investments in our infrastructure to enhance and expand our operations. We expect to continue to open new offices internationally and domestically. Our international expansion efforts have resulted, and we expect will continue to result, in increased costs and are subject to a variety of risks, including those associated with communication and integration problems resulting from geographic dispersion, language and cultural differences as well as those associated with compliance with laws of multiple countries. Moreover, the investments we have made and will make in our international organization may not result in our expected benefits. We expect to rely on our current cash on hand and cash generated from our operations to fund these investments. These costs could adversely affect our operating results.

Mix and Timing of Sales

Our business model results in a wide variety of sales transaction sizes. The time it takes to close a transaction, defined as the time between the entering of a sales opportunity into our customer relationship management system and the signing of a related license agreement with the customer, generally varies based on the size of the transaction. Our enterprise license agreements generally have more extended sales cycles and take longer to close.

Our sales mix is also impacted by our continued transition to a more subscription-based business model. In April 2018, we introduced role-based subscription offerings to help organizations scale analytics. Our Tableau Creator, Explorer and Viewer subscriptions each provide tailored combinations of Tableau's analytical capabilities that are designed for different user needs, from sophisticated analysts to casual users.

Components of Operating Results

Revenues

License revenues . License revenues consist of revenues recognized from the sale of perpetual, term and subscription licenses to new and existing customers. Our on-premises software licenses are sold through both perpetual and term-based license agreements. We also generate license revenues from the sale of software OEM arrangements and from sales of Tableau Online, a cloud-based subscription, which allows customers to access our software during a contractual period without taking possession of the software. Revenues from our cloud-based subscriptions are included in license revenues. We adopted the new revenue recognition accounting standard ASC 606 effective January 1, 2018 on a modified retrospective basis. The new revenue recognition standard materially impacts the way we recognize revenues related to our on-premises term-based software license agreements. See Note 2 of the accompanying notes to the consolidated financial statements for additional information related to our adoption of the new revenue recognition standard.

Maintenance and services revenues. Maintenance and services revenues consist of revenues recognized from the sale of maintenance agreements (including support and unspecified upgrades and enhancements if and when they are available) and, to a lesser extent, for training and professional services. A substantial majority of our maintenance and services revenues to date have been attributable to revenues from maintenance agreements that are recognized ratably over the maintenance period. Our contracts with customers for on-premises software licenses include one year of maintenance services, with the opportunity to renew maintenance services thereafter. Some customers provide purchase commitments upfront for multiple years of term or subscription software licenses and maintenance services.

We also have a professional services organization focused on both training and assisting our customers to fully leverage the use of our products. We recognize the revenues associated with these professional services on a time and materials basis as we deliver the services or provide the training.

Cost of Revenues

Cost of license revenues. Cost of license revenues primarily consists of referral fees paid to third parties, expenses related to hosting our SaaS-based Tableau Online service, amortization of acquired intangible assets and other costs including providing support and allocated overhead. Allocated overhead includes overhead costs for depreciation of equipment, facilities (consisting of leasehold improvements amortization and rent) and technical operations (including costs for compensation of our personnel and costs associated with our infrastructure). We expect that the cost of license revenues will increase as a percentage of license revenues as sales of subscriptions to Tableau Online increase.

Cost of maintenance and services revenues . Cost of maintenance and services revenues includes salaries, benefits and stock-based compensation expense associated with our technical support and services organization, as well as allocated overhead, which includes facilities-related costs. We recognize expenses related to our technical support and services organization as they are incurred.

Gross Profit and Gross Margin

Gross profit is total revenues less total cost of revenues. Total gross margin is gross profit expressed as a percentage of total revenues.

Operating Expenses

Our operating expenses are classified into three categories: sales and marketing, research and development, and general and administrative. For each category, the largest component is personnel costs, which include salaries, payroll taxes, employee benefit costs, bonuses and commissions, as applicable, and stock-based compensation.

Sales and marketing . Sales and marketing expenses primarily consist of personnel-related costs attributable to our sales and marketing personnel, commissions earned by our sales personnel, including the amortization of deferred costs of obtaining contracts with customers, other marketing and travel-related costs and allocated overhead, which includes facilities-related costs. We expect sales and marketing expenses to continue to increase, in absolute dollars, primarily due to growth in our sales and marketing organization, both domestically and internationally. We expect sales and marketing expenses to be our largest category of operating expenses as we continue to expand our business.

Research and development. R&D expenses primarily consist of personnel-related costs attributable to our R&D personnel and contractors, as well as allocated overhead, which includes facilities-related costs. We have devoted our product development efforts primarily to incorporate additional features, improve our platform, develop new products and adapt to new technologies or changes to existing technologies. We expect that our R&D expenses will continue to increase, in absolute dollars, as we increase our R&D headcount to further enhance and develop our products.

General and administrative. General and administrative expenses primarily consist of personnel-related costs attributable to our executive, finance, legal, human resources and administrative personnel, allocated overhead, which includes facilities-related costs, as well as outsourced legal, accounting and other professional services fees. We expect that general and administrative expenses will continue to increase, in absolute dollars, as we further expand our operations both domestically and internationally.

Other Income (Expense), Net

Other income (expense), net consists primarily of interest income on our cash and cash equivalents and investment balances and gains and losses on foreign currency transactions.

Income Tax Expense (Benefit)

Our income taxes are based on the amount of our taxable income and enacted federal, state and foreign tax rates, adjusted for allowable credits, deductions and the valuation allowance against deferred tax assets, as applicable. Our provision for income taxes consists of federal, state and foreign taxes.

We generally conduct our international operations through wholly-owned subsidiaries, branches and representative offices. Our corporate structure and intercompany arrangements align with the international expansion of our business activities. We report our taxable income in various jurisdictions worldwide based upon our business operations in those jurisdictions. The application of the tax laws of various jurisdictions, including the United States, to our international business activities is subject to interpretation. The taxing authorities of the jurisdictions in which we operate may challenge our methodologies for valuing developed technology or intercompany arrangements, including our transfer pricing, or determine the manner in which we operate our business is not consistent with the manner in which we report our income to the jurisdictions. If such a disagreement were to occur, and our positions were not sustained, we could be required to pay additional taxes, interest and penalties, resulting in higher effective tax rates, reduced cash flows and lower overall profitability of our operations. Additionally, our future worldwide tax rate and financial position may be affected by changes in the relevant tax laws, interpretation of such tax laws or the influence of certain tax policy efforts of the European Union and the OECD.

Our income tax provision may be significantly affected by changes to our estimates for taxes in jurisdictions in which we operate and other estimates utilized in determining our global effective tax rate. Actual results may also differ from our estimates based on changes in tax laws and economic conditions. Such changes could have a substantial impact on the income tax provision and effective income tax rate.

We are subject to the continuous examinations of our income tax returns by the taxing authorities in various tax jurisdictions, where authorities may assess additional income tax liabilities against us. Although we believe our tax estimates are reasonable, the final outcome of tax audits and any related litigation could be materially different from our historical income tax provisions. We regularly assess the likelihood of adverse outcomes resulting from these examinations to determine the adequacy of our provision for income taxes.

Critical Accounting Policies and Estimates

We prepare our consolidated financial statements in accordance with generally accepted accounting principles in the United States ("GAAP"). The preparation of consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, costs and expenses and related disclosures. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Actual results could differ significantly from the estimates made by our management. To the extent that there are differences between our estimates and actual results, our future financial statement presentation, financial condition, results of operations and cash flows could be affected.

Critical accounting policies and estimates are those that we consider the most important to the portrayal of our financial condition and results of operations because they require our most difficult, subjective or complex

judgments, often as a result of the need to make estimates about the effect of the matters that are inherently uncertain.

Revenue Recognition - ASC 606

We generate revenues primarily in the form of software license fees and related maintenance and services fees. Software license revenues include fees from the sales of perpetual, term and subscription licenses. Maintenance and services revenues primarily consist of fees for maintenance services (including support and unspecified upgrades and enhancements if and when they are available), training and professional services.

We recognize revenues related to contracts with customers that meet the following criteria:

- the contract contains reasonable evidence of approval and of both parties' commitment to perform their respective obligations;
- the contract includes identifiable rights to goods and/or services to be transferred and payment terms related to the transfer of those goods and/or services;
- the contract has commercial substance; and
- collection of substantially all of the consideration we are entitled to under the contract is probable.

We identify performance obligations in our contracts with customers, which may include software licenses and/or related maintenance and services. We determine the transaction price based on the amount we expect to be entitled to in exchange for transferring the promised goods or services to the customer. We allocate the transaction price in the contract to each distinct performance obligation in an amount that depicts the relative amount of consideration we expect to receive in exchange for satisfying each performance obligation. Revenue is recognized when performance obligations are satisfied.

Our contract payment terms are typically net 30 days. We assess collectability based on a number of factors including collection history and creditworthiness of the customer, and we may mitigate exposures to credit risk by requiring payments in advance. If we determine that collectability related to a contract is not probable, we may not record revenue until collectability becomes probable at a later date.

Our revenues are recorded based on the transaction price excluding amounts collected on behalf of third parties. For example, indirect taxes which we collect and remit to governmental authorities are excluded from our revenues.

Nature of Products and Services

Our on-premises software licenses are sold through both perpetual and term-based license agreements. These licensing arrangements provide customers with the same product functionality and differ mainly in the duration over which the customer benefits from the software. We deliver our software licenses electronically. Electronic delivery occurs when we provide the customer with access to the software and license key via a secure portal. Revenue from on-premises software licenses is generally recognized upfront at the point in time when the software is made available to the customer.

Our contracts with customers for on-premises software licenses include maintenance services and may also include training and/or professional services. Maintenance services agreements consist of fees for providing software updates on an if and when available basis and for providing technical support for software products for a specified term. We believe that our software updates and technical support each have the same pattern of transfer to the customer and are substantially the same. Therefore, we consider these updates and technical support to be a single distinct performance obligation. Revenues allocated to maintenance services are recognized ratably as the maintenance services are provided. Revenues related to training services are billed on a fixed fee basis and are recognized as the services are delivered. Payments received in advance of services performed are deferred and recognized when the related services are performed. Revenues related to professional services are billed on a time and materials basis and are recognized as the services are performed.

We also provide cloud-based subscriptions, which allow customers to access our software during a contractual period without taking possession of the software. We recognize revenue related to these cloud-based subscriptions ratably over the life of the subscription agreement beginning when the customer first has access to the software. Revenues from our cloud-based subscriptions are included in license revenues.

Judgments and Estimates

Our contracts with customers often include promises to transfer multiple products and services. Determining whether products and services are considered distinct performance obligations that should be accounted for separately from one another sometimes requires judgment.

Judgment is also required to determine standalone selling prices ("SSP"s) for each distinct performance obligation. We typically have more than one SSP for each of our products and services based on customer stratification, which is based on the size of the customer, their geographic region and market segment. For perpetual software licenses, we estimate SSPs by considering our pricing objectives and discounting practices. For our cloud-based subscriptions and for maintenance services, training and professional services, SSPs are generally observable using standalone sales and/or renewals. Our on-premises term-based software licenses generally do not have directly observable inputs for determining SSP. Therefore, we determine SSP using other observable inputs including customer-buying patterns, renewal rates and cumulative spend comparisons.

We evaluate contracts with customers that include options to purchase additional goods or services to determine whether the options give rise to a separate performance obligation that is material. If we determine the options give rise to a separate performance obligation that is material, the revenue allocated to such options is not recognized until the option is exercised or the option expires.

Our revenue recognition accounting policy under ASC 605 is included in Note 2 of the accompanying notes to the consolidated financial statements. We applied the revenue recognition accounting policy under ASC 605 to our disclosures in Note 8 of the accompanying notes to the consolidated financial statements, which include amounts presented for 2018.

Income Taxes

Income taxes are accounted for under the asset and liability method in accordance with authoritative guidance for income taxes. Deferred income tax assets are recognized for deductible temporary differences, net operating loss carryforwards, and tax credit carryforwards if it is more likely than not that the tax benefits will be realized. We consider future taxable income, historical operating results and ongoing prudent and feasible tax planning strategies in assessing the need for a valuation allowance. A valuation allowance is recorded to reduce our deferred income tax assets to the net amount that we believe is more likely than not to be realized. In the event we determine that we are able to realize our deferred income tax assets in excess of our net recorded amount, we would reduce the valuation allowance associated with the deferred income tax assets in the period the determination is made, which may result in a tax benefit in the statement of operations.

Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred income tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

Our assumptions, judgments and estimates relative to the value of net deferred income taxes take into account predictions of the amount and category of future taxable income, such as income from operations or capital gains income. Actual operating results and the underlying amount and category of income in future years could render our current assumptions, judgments and estimates of recoverable net deferred income taxes inaccurate. Any of the assumptions, judgments and estimates mentioned above could cause our actual income tax obligations to differ from our estimates, thus materially impacting our financial position and results of operations.

We are subject to income taxes in the United States and in numerous foreign jurisdictions. While we believe the positions we have taken are appropriate, we record reserves for taxes to address potential exposures involving tax positions that we believe could be challenged by taxing authorities. We record a benefit on a tax position when we determine that it is more likely than not that the position is sustainable upon examination, including resolution of any related appeals or litigation processes, based on the technical merits of the position. For tax positions that are more likely than not to be sustained, we measure the tax position at the largest amount of benefit that has a greater than 50% likelihood of being realized when it is effectively settled. We review the tax reserves as circumstances warrant and adjust the reserves as events occur that affect our potential liability for additional taxes. We follow the applicable guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosure and transition with respect to tax positions. We reflect interest and penalties related to income tax liabilities as a component of income tax expense.

Recent Accounting Pronouncements

The impacts of recently adopted accounting pronouncements and anticipated impacts of recent accounting pronouncements not yet adopted are discussed in Note 2 of the accompanying notes to the consolidated financial statements of this Annual Report on Form 10-K.

Results of Operations

The following tables set forth our results of operations for the periods presented and as a percentage of our total revenues for those periods. The period-to-period comparison of financial results is not necessarily indicative of financial results to be achieved in future periods. We adopted the new revenue recognition accounting standard ASC 606 effective January 1, 2018 on a modified retrospective basis. Our results of operations presented in the following tables include financial results for reporting periods during 2018, which are disclosed in compliance with the new revenue recognition standard. Historical financial results for reporting periods prior to 2018 have not been retroactively restated and are presented in conformity with amounts previously disclosed under the prior revenue recognition standard ASC 605. We have included additional information regarding the impacts from the adoption of the new revenue recognition standard on our financial results for 2018 and included financial results during 2018 under ASC 605 for comparison to the prior year. See Note 2 of the accompanying notes to the consolidated financial statements for additional information related to our adoption of the new revenue recognition standard.

	Year Ended December 31,				
	2018			2017	2016
	As Reported (ASC 606)	Impacts from Adoption	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
			(in thousands)		
Consolidated Statements of Operations Data:					
Revenues					
License	\$ 555,581	\$ (57,531)	\$ 498,050	\$ 429,204	\$ 481,659
Maintenance and services	599,771	(114,872)	484,899	447,855	345,284
Total revenues	1,155,352	(172,403)	982,949	877,059	826,943
Cost of revenues					
License	21,407	(484)	20,923	13,534	7,003
Maintenance and services	121,217	514	121,731	100,025	92,087
Total cost of revenues ⁽¹⁾	142,624	30	142,654	113,559	99,090
Gross profit	1,012,728	(172,433)	840,295	763,500	727,853
Operating expenses					
Sales and marketing ⁽¹⁾	593,786	26,768	620,554	517,446	476,506
Research and development ⁽¹⁾	382,886	—	382,886	334,148	302,759
General and administrative ⁽¹⁾	125,805	(119)	125,686	102,871	88,149
Total operating expenses	1,102,477	26,649	1,129,126	954,465	867,414
Operating loss	(89,749)	(199,082)	(288,831)	(190,965)	(139,561)
Other income, net	17,872	(46)	17,826	12,266	2,134
Loss before income tax expense	(71,877)	(199,128)	(271,005)	(178,699)	(137,427)
Income tax expense	5,165	1,068	6,233	6,861	7,022
Net loss	\$ (77,042)	\$ (200,196)	\$ (277,238)	\$ (185,560)	\$ (144,449)

(1) Includes stock-based compensation expense as follows:

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Cost of revenues	\$ 13,392	\$ 11,029	\$ 10,595
Sales and marketing	87,105	74,065	68,411
Research and development	111,965	104,280	91,044
General and administrative	26,269	20,909	15,662

	Year Ended December 31,			
	2018		2017	2016
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
	(as a percentage of total revenues)			
Consolidated Statements of Operations Data:				
Revenues				
License	48.1 %	50.7 %	48.9 %	58.2 %
Maintenance and services	51.9 %	49.3 %	51.1 %	41.8 %
Total revenues	100.0 %	100.0 %	100.0 %	100.0 %
Cost of revenues				
License	1.9 %	2.1 %	1.5 %	0.8 %
Maintenance and services	10.5 %	12.4 %	11.4 %	11.1 %
Total cost of revenues	12.3 %	14.5 %	12.9 %	12.0 %
Gross profit	87.7 %	85.5 %	87.1 %	88.0 %
Operating expenses				
Sales and marketing	51.4 %	63.1 %	59.0 %	57.6 %
Research and development	33.1 %	39.0 %	38.1 %	36.6 %
General and administrative	10.9 %	12.8 %	11.7 %	10.7 %
Total operating expenses	95.4 %	114.9 %	108.8 %	104.9 %
Operating loss	(7.8)%	(29.4)%	(21.8)%	(16.9)%
Other income, net	1.5 %	1.8 %	1.4 %	0.3 %
Loss before income tax expense	(6.2)%	(27.6)%	(20.4)%	(16.6)%
Income tax expense	0.4 %	0.6 %	0.8 %	0.8 %
Net loss	(6.7)%	(28.2)%	(21.2)%	(17.5)%

Comparison of Years Ended December 31, 2018 , 2017 and 2016
Revenues

	Year Ended December 31,				2017 to 2018 % Change	2017 to 2018 % Change	2016 to 2017 % Change				
	2018		2017	2016							
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)							
								As Reported	Without Adoption	As Reported	
	(dollars in thousands)										
Revenues											
License	\$	555,581	\$	498,050	\$	429,204	\$	481,659	29.4%	16.0%	(10.9)%
Maintenance and services		599,771		484,899		447,855		345,284	33.9%	8.3%	29.7 %
Total revenues	\$	1,155,352	\$	982,949	\$	877,059	\$	826,943	31.7%	12.1%	6.1 %

Year ended December 31, 2018 compared to December 31, 2017 . Total ASC 605 revenues increased \$105.9 million during the year ended December 31, 2018 compared to the year ended December 31, 2017 , primarily due to increased demand for our products and services from new and existing customers both domestically and internationally. We continue to see strong demand from large customers that have been expanding to thousands or tens of thousands of users. These expansions have been further enabled by our role-based offerings. As of December 31, 2018 , we had over 86,000 customer accounts compared to over 70,000 customer accounts as of December 31, 2017 .

ASC 605 license revenues increased \$68.8 million during the year ended December 31, 2018 compared to the year ended December 31, 2017. The increase in ASC 605 license revenues was impacted by the continued growth in customer demand for our term and subscription licenses. Revenues from term and subscription licenses represented approximately 63% of total ASC 605 license revenues during the year ended December 31, 2018 compared to approximately 28% during the year ended December 31, 2017. Our term and subscription licenses have lower unit sales prices and were generally recognized ratably under ASC 605 compared to our perpetual licenses, which have comparably higher unit sales prices and were recognized upfront under ASC 605. The growth in customer demand for our term and subscription licenses also increased the amount of amortized license revenues recognized under ASC 605 during the year ended December 31, 2018 compared to the year ended December 31, 2017. ASC 605 maintenance and services revenues increased \$37.0 million during the year ended December 31, 2018 compared to the year ended December 31, 2017 driven by our growing customer base.

Total ASC 606 revenues were \$1.16 billion for the year ended December 31, 2018 compared to total ASC 605 revenues of \$982.9 million. The new revenue recognition standard materially impacts the timing of revenue recognition related to our on-premises term license agreements. Prior to our adoption of the new revenue recognition standard, we historically recognized revenue under ASC 605 related to on-premises term license agreements ratably over the term of the licensing agreement. These revenues were then included in license revenues. Under the new revenue recognition standard, revenue allocable to the license portion of the arrangement is recognized in license revenues upon delivery of the license. Revenues allocated to maintenance services continue to be recognized ratably and are included in maintenance and services revenues.

Year ended December 31, 2017 compared to December 31, 2016. Total revenues increased \$ 50.1 million during the year ended December 31, 2017 compared to the year ended December 31, 2016. Growth in total revenues was largely related to increased maintenance and services revenues from our growing customer base. For example, as of December 31, 2017, we had over 70,000 customer accounts compared to over 54,000 customer accounts as of December 31, 2016.

License revenues decreased \$52.5 million during year ended December 31, 2017 compared to the year ended December 31, 2016. The decrease in license revenues was primarily due to the changes in the mix of our sales of term and subscription licenses relative to sales of our perpetual licenses. Revenues from term and subscription licenses represented approximately 28% of total license revenues for the year ended December 31, 2017 compared to 10% for the year ended December 31, 2016. Maintenance and services revenues increased \$102.6 million during the year ended December 31, 2017 compared to the year ended December 31, 2016. The increase in maintenance and service revenues was primarily due to our growing customer base.

Cost of Revenues and Gross Margin

	Year Ended December 31,								
	2018		2017		2016		2017 to 2018 % Change	2017 to 2018 % Change	2016 to 2017 % Change
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)					
					As Reported	Without Adoption	As Reported		
	(dollars in thousands)								
Cost of revenues									
License	\$ 21,407	\$ 20,923	\$ 13,534	\$ 7,003	58.2%	54.6%	93.3%		
Maintenance and services	121,217	121,731	100,025	92,087	21.2%	21.7%	8.6%		
Total cost of revenues	\$ 142,624	\$ 142,654	\$ 113,559	\$ 99,090	25.6%	25.6%	14.6%		

	Year Ended December 31,			
	2018		2017	2016
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
Gross margin				
License	96.1%	95.8%	96.8%	98.5%
Maintenance and services	79.8%	74.9%	77.7%	73.3%
Total gross margin	87.7%	85.5%	87.1%	88.0%

Year ended December 31, 2018 compared to December 31, 2017 . Total ASC 605 cost of revenues increased \$29.1 million during the year ended December 31, 2018 compared to the year ended December 31, 2017 . The increase was largely related to an increase in personnel-related costs to support the delivery of our maintenance and services and to support Tableau Online of \$20.7 million, which includes a \$2.4 million increase in stock-based compensation expense. Our total number of technical support and services headcount increased to 548 employees as of December 31, 2018 from 460 employees as of December 31, 2017 . The remainder of the increase in total ASC 605 cost of revenues was primarily attributable to a \$5.5 million increase in allocated overhead, which includes facilities related costs. The decrease in total ASC 605 gross margin for the year ended December 31, 2018 as compared to the total gross margin for the year ended December 31, 2017 was primarily due to the increase in personnel-related costs and our transition to a more subscription-based business model, which impacted our revenue growth. Cost of revenues under ASC 605 did not differ materially from cost of revenues under ASC 606 during the year ended December 31, 2018 .

Year ended December 31, 2017 compared to December 31, 2016 . Total cost of revenues increased \$14.5 million during the year ended December 31, 2017 compared to the year ended December 31, 2016 . The increase was largely related to a \$9.7 million increase in personnel-related costs to support the delivery of our maintenance and services and to support Tableau Online. Our total number of technical support and services headcount increased to 460 employees as of December 31, 2017 from 405 employees as of December 31, 2016 . The remainder of the increase in total cost of revenues was primarily attributable to a \$2.8 million increase in allocated overhead, which includes facilities-related costs. The decrease in total gross margin for the year ended December 31, 2017 as compared to the total gross margin for the year ended December 31, 2016 was primarily due to continued investment in hosting Tableau Online. Gross margin related to maintenance and services revenues improved during 2017 due to scale. The expansion of our customer base resulted in a higher growth rate for maintenance and services revenues as compared to the costs to support our maintenance and services revenues.

Operating Expenses

	Year Ended December 31,				2017 to 2018 % Change	2017 to 2018 % Change	2016 to 2017 % Change
	2018		2017	2016			
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)	As Reported	Without Adoption	As Reported
(dollars in thousands)							
Operating expenses							
Sales and marketing	\$ 593,786	\$ 620,554	\$ 517,446	\$ 476,506	14.8%	19.9%	8.6%
Research and development	382,886	382,886	334,148	302,759	14.6%	14.6%	10.4%
General and administrative	125,805	125,686	102,871	88,149	22.3%	22.2%	16.7%
Total operating expenses	\$ 1,102,477	\$ 1,129,126	\$ 954,465	\$ 867,414	15.5%	18.3%	10.0%

Sales and Marketing

Year ended December 31, 2018 compared to December 31, 2017 . ASC 605 sales and marketing expenses increased \$103.1 million during the year ended December 31, 2018 compared to the year ended December 31, 2017 . The increase was largely related to an increase in compensation expense of \$78.1 million, which includes a \$13.0 million increase in stock-based compensation expense, primarily resulting from headcount growth as we expanded our sales organization both domestically and internationally. Our sales and marketing headcount increased to 1,842 employees as of December 31, 2018 compared to 1,523 employees as of December 31, 2017 . The remainder of the increase in ASC 605 sales and marketing expenses was primarily attributable to a \$18.3 million increase in marketing and travel-related costs for marketing promotions, customer events and advertising that promoted our brand and created market awareness for our technology offerings both domestically and internationally. There was also a \$4.1 million increase in allocated overhead, which includes facilities related costs.

ASC 606 sales and marketing expenses were \$593.8 million for the year ended December 31, 2018 compared to ASC 605 sales and marketing expenses of \$620.6 million . The difference of \$26.8 million relates to the net impacts from the deferral of sales compensation expense under ASC 606. All of our sales compensation costs are expensed as incurred under ASC 605.

Year ended December 31, 2017 compared to December 31, 2016 . Sales and marketing expenses increased \$40.9 million during the year ended December 31, 2017 compared to the year ended December 31, 2016 . The increase was largely related to an increase in compensation expense of \$32.0 million, which includes a \$5.7 million increase in stock-based compensation expense, primarily resulting from headcount growth and incentive compensation changes related to subscription offerings introduced in the first quarter of 2017. Our sales and marketing headcount increased to 1,523 employees as of December 31, 2017 compared to 1,407 employees as of December 31, 2016 . The remainder of the increase was primarily attributable to an \$8.9 million increase for marketing promotions and advertising to promote our brand and create market awareness for our technology offerings both domestically and internationally.

Research and Development

Year ended December 31, 2018 compared to December 31, 2017 . R&D expenses increased \$48.7 million during the year ended December 31, 2018 compared to the year ended December 31, 2017 . The increase was largely related to an increase in compensation expense of \$45.2 million, which includes a \$7.7 million increase in stock-based compensation expense, primarily resulting from headcount growth as part of our focus on further developing and enhancing our products. Our R&D headcount increased to 1,125 employees as of December 31, 2018 compared to 968 employees as of December 31, 2017 . R&D expenses under ASC 605 did not differ materially from R&D expenses under ASC 606 during the year ended December 31, 2018 .

Year ended December 31, 2017 compared to December 31, 2016 . R&D expenses increased \$31.4 million during the year ended December 31, 2017 compared to the year ended December 31, 2016 . The increase was largely related to an increase in compensation expense of \$29.8 million, which includes a \$13.2 million increase in stock-based compensation expense, primarily resulting from headcount growth. Our R&D headcount increased to 968 employees as of December 31, 2017 compared to 912 employees as of December 31, 2016 .

General and Administrative

Year ended December 31, 2018 compared to December 31, 2017 . ASC 605 general and administrative expenses increased \$22.8 million during the year ended December 31, 2018 compared to the year ended December 31, 2017 . The increase was largely related to an increase in compensation expense of \$15.7 million, which includes a \$5.4 million increase in stock-based compensation expense, primarily resulting from headcount growth. Our general and administrative headcount increased to 377 employees as of December 31, 2018 compared to 298 employees as of December 31, 2017 . The remainder of the increase in ASC 605 general and administrative expenses was primarily attributable to a \$4.1 million increase in outsourced professional service fees related to the growth of our business as we expand our operations and infrastructure both domestically and internationally. General and administrative expenses under ASC 605 did not differ materially from general and administrative expenses under ASC 606 during the year ended December 31, 2018 .

Year ended December 31, 2017 compared to December 31, 2016 . General and administrative expenses increased \$14.7 million for the year ended December 31, 2017 compared to the year ended December 31, 2016 . The increase was largely related to an increase in compensation expense of \$10.0 million, which includes a \$5.2 million increase in stock-based compensation expense, primarily resulting from headcount growth. Our general and administrative headcount increased to 298 employees as of December 31, 2017 compared to 273 employees as of December 31, 2016 .

Other Income, Net

	Year Ended December 31,			
	2018		2017	2016
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands)			
Other income, net	\$ 17,872	\$ 17,826	\$ 12,266	\$ 2,134

Year ended December 31, 2018 compared to December 31, 2017 . Other income, net increased primarily due to an increase in interest income earned on our cash equivalent and investment balances, driven by rising interest rates. Other income, net was also impacted by losses associated with foreign currency transactions. Foreign currency transaction gains (losses) were \$(0.5) million and \$4.1 million for the years ended December 31, 2018 and 2017 , respectively. Other income, net under ASC 605 did not differ materially from other income, net under ASC 606 during the year ended December 31, 2018 .

Year ended December 31, 2017 compared to December 31, 2016 . Other income, net increased primarily due to an increase in interest income attributable to our investments in available-for-sale securities and rising interest rates. Other income, net also increased to a lesser extent due to an increase in gains associated with foreign currency transactions.

Income Tax Expense

	Year Ended December 31,			
	2018		2017	2016
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
	(dollars in thousands)			
Income tax expense	\$ 5,165	\$ 6,233	\$ 6,861	\$ 7,022
Effective tax rate	(7.2)%	(2.3)%	(3.8)%	(5.1)%

Year ended December 31, 2018 compared to December 31, 2017 . Our ASC 605 effective tax rate for the year ended December 31, 2018 was (2.3)% compared to (3.8)% for the year ended December 31, 2017 . The year-over-year change in the effective tax rate is primarily due to an increase in the year-over-year loss before income tax expense in jurisdictions where a tax benefit is not available and an increase in the excess tax benefit from stock-based compensation in jurisdictions where a tax benefit is available.

Our ASC 606 effective tax rate for the year ended December 31, 2018 was (7.2)% compared to (3.8)% for the year ended December 31, 2017 . The year-over-year change in the effective tax rate is primarily due to a decrease in the year-over-year loss before income tax expense in jurisdictions where a tax benefit is not available following the adoption of ASC 606. The difference in effective tax rates between ASC 606 and ASC 605 is primarily attributable to the differences in the amount of revenue recognized under ASC 606 compared to ASC 605. See Note 10 of the accompanying notes to the consolidated financial statements for additional information.

Year ended December 31, 2017 compared to December 31, 2016 . Our effective tax rate for the year ended December 31, 2017 was (3.8)% compared to (5.1)% for the year ended December 31, 2016 . The year-over-year change in the effective tax rate is primarily due to an increase in the year-over-year loss before income tax expense in jurisdictions where a tax benefit is not available. See Note 10 of the accompanying notes to the consolidated financial statements for additional information.

Non-GAAP Financial Measures

We believe that the use of non-GAAP gross profit and gross margin, non-GAAP operating income (loss) and operating margin, non-GAAP net income (loss), non-GAAP net income (loss) per basic and diluted common share and free cash flow is helpful to our investors. These measures, which we refer to as our non-GAAP financial measures, are not prepared in accordance with GAAP. Non-GAAP gross profit is calculated by excluding stock-based compensation expense and expense related to amortization of acquired intangible assets, each to the extent attributable to the cost of revenues, from gross profit. Non-GAAP gross margin is the ratio calculated by dividing non-GAAP gross profit by total revenues. Non-GAAP operating income (loss) is calculated by excluding

stock-based compensation expense and expense related to amortization of acquired intangible assets from operating income (loss). Non-GAAP operating margin is the ratio calculated by dividing non-GAAP operating income (loss) by total revenues. Non-GAAP net income (loss) is calculated by excluding stock-based compensation expense, expense related to amortization of acquired intangible assets and non-GAAP income tax adjustments from net income (loss). Non-GAAP net income (loss) per basic and diluted common share is calculated by dividing non-GAAP net income (loss) by the basic and diluted weighted average shares outstanding. Non-GAAP diluted weighted average shares outstanding includes the effect of dilutive shares in periods of non-GAAP net income.

Non-GAAP financial information is adjusted for a tax rate equal to our estimated tax rate on non-GAAP income over a three-year financial projection. This long-term rate is based on our estimated annual GAAP income tax rate forecast, adjusted to account for items excluded from GAAP income in calculating the non-GAAP financial measures. To determine this long-term non-GAAP tax rate, we evaluate a three-year financial projection that excludes the impact of non-cash stock-based compensation expense and expense related to amortization of acquired intangible assets. The long-term non-GAAP tax rate takes into account other factors including our current operating structure, our existing tax positions in various jurisdictions and key legislation in major jurisdictions where we operate. The long-term non-GAAP tax rate applied to the full year ended December 31, 2018 was 20%. The long-term non-GAAP tax rate applied to the full years ended December 31, 2017 and 2016 was 30%. We applied these same non-GAAP tax rates to our financial results presented in accordance with ASC 606 and ASC 605. The long-term non-GAAP tax rates assume our deferred income tax assets will be realized based upon projected future taxable income excluding stock-based compensation expense. We anticipate using the long-term non-GAAP tax rate of 20% applied to the full year ended December 31, 2018 in future periods and may provide updates to this rate on an annual basis, or more frequently if material changes occur.

Because of varying available valuation methodologies, subjective assumptions and the variety of equity instruments that can impact a company's non-cash expenses, we believe that providing non-GAAP financial measures that exclude stock-based compensation expense allow for meaningful comparisons between our operating results from period to period. The expense related to amortization of acquired intangible assets is dependent upon estimates and assumptions, which can vary significantly and are unique to each asset acquired; therefore, we believe non-GAAP measures that adjust for the amortization of acquired intangible assets provides investors a consistent basis for comparison across accounting periods. All of these non-GAAP financial measures are important tools for financial and operational decision-making and for evaluating our operating results over different periods of time.

We calculate free cash flow as net cash provided by operating activities less net cash used in investing activities for purchases of property and equipment. We consider free cash flow to be a liquidity measure that provides useful information to management and investors about the amount of cash generated by our business that can be used for strategic opportunities, including investing in our business, making strategic acquisitions, repurchasing our common stock and strengthening our balance sheet. All of our non-GAAP financial measures are important tools for financial and operational decision-making and for evaluating our own operating results over different periods of time.

Our non-GAAP financial measures may not provide information that is directly comparable to information provided by other companies in our industry, as other companies in our industry may calculate non-GAAP financial measures differently. In addition, there are limitations in using non-GAAP financial measures because non-GAAP financial measures are not prepared in accordance with GAAP, may be different from non-GAAP financial measures used by other companies and exclude expenses that may have a material impact on our reported financial results. Further, stock-based compensation expense has been and will continue to be for the foreseeable future a significant recurring expense in our business and an important part of the compensation provided to our employees. Because of the significant impact of the adoption of ASC 606 on our results of operations, our non-GAAP financial measures for the year ended December 31, 2018 (computed in accordance with ASC 606) are not as comparable to our non-GAAP financial measures for the years ended December 31, 2017 and 2016 (computed in accordance with ASC 605). The presentation of non-GAAP financial information is not meant to be considered in isolation or as a substitute for the directly comparable financial measures prepared in accordance with GAAP. We urge our investors to review the reconciliation of our non-GAAP financial measures to the comparable GAAP financial measures included below and not to rely on any single financial measure to evaluate our business.

The following table summarizes our non-GAAP financial measures:

	Year Ended December 31,			
	2018		2017	2016
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
	(dollars in thousands)			
Non-GAAP gross profit	\$ 1,027,902	\$ 855,469	\$ 775,329	\$ 738,771
Non-GAAP gross margin	89.0%	87.0 %	88.4%	89.3%
Non-GAAP operating income (loss)	\$ 150,764	\$ (48,318)	\$ 20,118	\$ 46,474
Non-GAAP operating margin	13.0%	(4.9)%	2.3%	5.6%
Non-GAAP net income (loss)	\$ 134,909	\$ (24,394)	\$ 22,669	\$ 34,026
Free cash flow	\$ 134,250	\$ 134,340	\$ 165,044	\$ 116,530

The following table presents the reconciliation of gross profit to non-GAAP gross profit:

	Year Ended December 31,			
	2018		2017	2016
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands)			
Gross profit	\$ 1,012,728	\$ 840,295	\$ 763,500	\$ 727,853
Excluding: Stock-based compensation expense attributable to cost of revenues	13,392	13,392	11,029	10,595
Excluding: Amortization of acquired intangible assets	1,782	1,782	800	323
Non-GAAP gross profit	\$ 1,027,902	\$ 855,469	\$ 775,329	\$ 738,771

The following table presents the reconciliation of gross margin to non-GAAP gross margin:

	Year Ended December 31,			
	2018		2017	2016
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
Gross margin	87.7%	85.5%	87.1%	88.0%
Excluding: Stock-based compensation expense attributable to cost of revenues	1.2%	1.4%	1.3%	1.3%
Excluding: Amortization of acquired intangible assets	0.2%	0.2%	0.1%	0.0%
Non-GAAP gross margin	89.0%	87.0%	88.4%	89.3%

The following table presents the reconciliation of operating loss to non-GAAP operating income (loss):

	Year Ended December 31,			
	2018		2017	
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands)			
Operating loss	\$ (89,749)	\$ (288,831)	\$ (190,965)	\$ (139,561)
Excluding: Stock-based compensation expense	238,731	238,731	210,283	185,712
Excluding: Amortization of acquired intangible assets	1,782	1,782	800	323
Non-GAAP operating income (loss)	\$ 150,764	\$ (48,318)	\$ 20,118	\$ 46,474

The following table presents the reconciliation of operating margin to non-GAAP operating margin:

	Year Ended December 31,			
	2018		2017	
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
Operating margin	(7.8)%	(29.4)%	(21.8)%	(16.9)%
Excluding: Stock-based compensation expense	20.7 %	24.3 %	24.0 %	22.5 %
Excluding: Amortization of acquired intangible assets	0.2 %	0.2 %	0.1 %	0.0 %
Non-GAAP operating margin	13.0 %	(4.9)%	2.3 %	5.6 %

The following tables present the reconciliation of net loss to non-GAAP net income (loss) and non-GAAP net income (loss) per basic and diluted common share:

	Year Ended December 31,			
	2018		2017	
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands, except per share amounts)			
Net loss	\$ (77,042)	\$ (277,238)	\$ (185,560)	\$ (144,449)
Excluding: Stock-based compensation expense	238,731	238,731	210,283	185,712
Excluding: Amortization of acquired intangible assets	1,782	1,782	800	323
Income tax adjustments	(28,562)	12,331	(2,854)	(7,560)
Non-GAAP net income (loss)	\$ 134,909	\$ (24,394)	\$ 22,669	\$ 34,026
Weighted average shares used to compute non-GAAP basic net income (loss) per share	82,632	82,632	78,869	75,162
Effect of potentially dilutive shares: stock awards	4,096	—	4,092	4,783
Weighted average shares used to compute non-GAAP diluted net income (loss) per share	86,728	82,632	82,961	79,945
Non-GAAP net income (loss) per share				
Basic	\$ 1.63	\$ (0.30)	\$ 0.29	\$ 0.45
Diluted	\$ 1.56	\$ (0.30)	\$ 0.27	\$ 0.43

The following table presents the reconciliation of net cash provided by operating activities to free cash flow:

	Year Ended December 31,			
	2018		2017	2016
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands)			
Net cash provided by operating activities	\$ 154,696	\$ 154,786	\$ 226,867	\$ 177,262
Less: Purchases of property and equipment	(20,446)	(20,446)	(61,823)	(60,732)
Free cash flow	\$ 134,250	\$ 134,340	\$ 165,044	\$ 116,530
Net cash used in investing activities	\$ (51,664)	\$ (51,664)	\$ (461,962)	\$ (77,131)
Net cash provided by (used in) financing activities	\$ (75,314)	\$ (75,314)	\$ (41,135)	\$ 14,347
Effect of exchange rate changes on cash and cash equivalents	\$ (2,574)	\$ (2,664)	\$ (4,609)	\$ (1,661)

Non-GAAP Operating Income (Loss)

ASC 605 non-GAAP operating loss for 2018 was \$48.3 million compared to a non-GAAP operating income of \$20.1 million in 2017. The difference was primarily due to increases in our operating expenses relative to our total ASC 605 revenues. Increases in operating expenses were largely related to additional compensation expense, primarily resulting from headcount growth. Our ASC 605 revenue growth in 2018 was impacted by changes in the mix of our sales of term and subscription licenses relative to sales of our perpetual licenses. Under ASC 605, revenues from perpetual licenses are generally recognized upfront whereas revenues from term and subscription license sales are generally recognized ratably. In addition, unit sales prices for term and subscription licenses are lower than comparable perpetual licenses.

ASC 606 non-GAAP operating income for 2018 was \$150.8 million compared to an ASC 605 non-GAAP operating loss of \$48.3 million. The difference in the amount of non-GAAP operating income (loss) under ASC 606 compared to ASC 605 relates to differences in the amount of revenue recognized under ASC 606 compared to ASC 605 and the net impacts from the deferral of certain sales commission costs under ASC 606.

Non-GAAP operating income decreased \$26.4 million from 2016 to 2017 primarily due to increases in our operating expenses relative to our total revenues. Increases in operating expenses during 2017 were largely related to additional compensation expense, primarily resulting from headcount growth. Our revenue growth in 2017 was impacted by changes in the mix of our sales of term and subscription licenses relative to sales of our perpetual licenses.

Non-GAAP Net Income (Loss)

ASC 605 non-GAAP net loss for 2018 was \$24.4 million compared to a non-GAAP net income of \$22.7 million in 2017. The difference was primarily attributable to the increase in non-GAAP operating loss.

ASC 606 non-GAAP net income for 2018 was \$134.9 million compared to an ASC 605 non-GAAP net loss of \$24.4 million. The difference in the amount of non-GAAP net income (loss) under ASC 606 compared to ASC 605 relates to differences in the amount of revenue recognized under ASC 606 compared to ASC 605 and the net impacts from the deferral of certain sales commission costs under ASC 606.

Non-GAAP net income decreased from 2016 to 2017 primarily due to decreases in non-GAAP operating income.

Free Cash Flow

ASC 606 free cash flow for 2018 was \$134.3 million compared to free cash flow of \$165.0 million in 2017. The decrease was primarily attributable to the decrease in net cash provided by operating activities, partially offset by the decrease in cash used for capital expenditures. ASC 606 free cash flow did not differ materially from ASC 605 free cash flow.

Free cash flow increased from 2016 to 2017 due to an increase in net cash provided by operating activities.

Liquidity and Capital Resources

As of December 31, 2018, we had cash and cash equivalents totaling \$653.0 million, investments of \$395.6 million, accounts receivable, net of \$236.1 million and \$867.1 million of working capital under ASC 606.

As of December 31, 2018, our cash and cash equivalents and short-term investments were held for working capital purposes and were held in cash deposits, money market funds, commercial paper, U.S. treasury securities, U.S. agency securities and corporate bonds. We intend to continue making capital expenditures to support the growth in our business and operations. We believe that our existing cash and cash equivalents and short-term investments, together with cash generated from operations, will be sufficient to meet our anticipated cash needs for at least the next 12 months. Our future capital requirements will depend on many factors including our growth rate, the timing and extent of spending to support R&D efforts, the continued expansion of sales and marketing activities, the introduction of new and enhanced product and services offerings and the continued market acceptance of our products.

The following tables show our cash and cash equivalents and investments and our cash flows from operating activities, investing activities and financing activities for the stated periods:

	December 31,	
	2018	2017
	(in thousands)	
Cash and cash equivalents	\$ 653,022	\$ 627,878
Short-term investments	369,355	226,787
Long-term investments	26,278	148,364

	Year Ended December 31,		
	2018	2017	2016
	As Reported (ASC 606)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands)		
Net cash provided by operating activities	\$ 154,696	\$ 226,867	\$ 177,262
Net cash used in investing activities	(51,664)	(461,962)	(77,131)
Net cash provided by (used in) financing activities	(75,314)	(41,135)	14,347
Effect of exchange rate changes	(2,574)	(4,609)	(1,661)
Net increase (decrease) in cash and cash equivalents	\$ 25,144	\$ (280,839)	\$ 112,817

Operating Activities

Net cash provided by operating activities was \$ 154.7 million for the year ended December 31, 2018, as a result of a ASC 606 net loss of \$77.0 million, adjusted for stock-based compensation expense of \$238.7 million and non-cash depreciation and amortization expense of \$35.8 million related to property and equipment and intangible assets. Net cash provided by operating activities was also impacted by a \$36.5 million increase in accounts receivable, net, a \$56.6 million increase in deferred revenue adjusted for the impact of the \$105.9 million reduction to the opening balance resulting from the adoption of ASC 606, a \$38.4 million increase in accounts payable and accrued liabilities, and a \$95.3 million increase in prepaid expenses and other assets adjusted for the impact of the \$66.3 million increase to the opening balance resulting from the adoption of ASC 606. The increase in stock-based compensation expense was primarily related to headcount growth. The increases to accounts receivable, net and deferred revenue were primarily due to an increase in sales transactions. Accounts receivable, net, was also impacted by our transition to a more subscription-based business model. Fluctuations in accounts receivable, net are impacted by purchase commitments from customers upfront for multiple years of subscription-based software licenses and maintenance services, which may be invoiced over multiple reporting periods. The increase in accounts payable and accrued liabilities was primarily due to the timing of payments and to an increase in accrued compensation costs resulting from headcount growth. The increase in prepaid expenses and other assets was primarily due to an increase in our contract assets balance resulting from

revenue recorded during the period under ASC 606 that was not yet contractually billable. The increase in prepaid expenses and other assets was also impacted by the deferral of sales commission costs under ASC 606.

Net cash provided by operating activities was \$ 226.9 million for the year ended December 31, 2017 , as a result of a net loss of \$185.6 million , adjusted for stock-based compensation expense of \$210.3 million and non-cash depreciation and amortization expense of \$44.7 million related to capital expenditures. Net cash provided by operating activities was also impacted by a \$12.5 million decrease in accounts receivable, net, a \$123.9 million increase in deferred revenue and a \$13.5 million increase in accounts payable and accrued liabilities. The increase in stock-based compensation expense was primarily related to headcount growth. The increase in deferred revenue was primarily due to increased sales of maintenance agreements and an increase in term and subscription license sales, which have ratable revenue recognition under ASC 605. The increase in accounts payable and accrued liabilities was primarily due to an increase in accrued compensation costs resulting from headcount growth and incentive compensation changes related to the introduction of our subscription offerings in 2017. The decrease in accounts receivable, net was primarily due to strong collections and changes in the mix of our sales of term and subscription licenses relative to sales of our perpetual licenses. Perpetual licenses are generally billed upfront whereas term and subscription license sales are generally billed annually. In addition, unit sales prices for term and subscription licenses are lower than comparable perpetual licenses.

Net cash provided by operating activities was \$177.3 million for the year ended December 31, 2016 , as a result of a net loss of \$144.4 million , adjusted for stock-based compensation expense of \$185.7 million and non-cash depreciation and amortization expense of \$43.0 million related to capital expenditures. Net cash provided by operating activities was also impacted by a \$78.2 million increase in accounts receivable, net, a \$19.0 million increase in prepaid expenses and other assets, a \$116.9 million increase in deferred revenue and a \$71.2 million increase in accounts payable and accrued liabilities. The increase in stock-based compensation expense was primarily related to headcount growth. The increase in deferred revenue was primarily due to increased sales of maintenance agreements and an increase in term and subscription license sales, which have ratable revenue recognition. The increase in prepaid expenses and other assets and accounts payable and accrued liabilities was primarily due to an increase in expenditures based on growth in the business and employee contributions under our 2013 Employee Stock Purchase Plan ("2013 ESPP"). The increase in accounts receivable, net was primarily due to revenue growth.

Investing Activities

Net cash used in investing activities was \$51.7 million for the year ended December 31, 2018 . The cash used for this period was attributable to purchases of investments of \$285.3 million , offset by maturities of investments of \$262.8 million . Cash used in investing activities was also impacted by capital expenditures to support the growth of our business of \$20.4 million , and \$10.9 million , net of cash acquired, used to purchase Empirical Systems, Inc., a privately-held Delaware corporation.

Net cash used in investing activities was \$462.0 million for the year ended December 31, 2017 . The cash used for this period was primarily attributable to purchases of investments of \$421.7 million , partially offset by maturities of investments of \$30.6 million and sales of investments of \$14.9 million . Net cash used in investing activities was also impacted by the \$24.0 million , net of cash acquired, used to purchase Argo Technologies Corp., a privately-held Delaware corporation, and \$61.8 million in capital expenditures to support the growth of our business, including hardware, software, office equipment and leasehold improvements.

Net cash used in investing activities was \$77.1 million for the year ended December 31, 2016 . The cash used for this period was primarily attributable to \$16.4 million paid to acquire Hyper and \$60.7 million in capital expenditures to support the growth of our business, including hardware, software, office equipment and leasehold improvements.

Financing Activities

Net cash used in financing activities was \$ 75.3 million for the year ended December 31, 2018 as a result of repurchases of common stock under our stock repurchase program of \$120.0 million , partially offset by proceeds of \$34.2 million from the purchases of stock under our 2013 ESPP and \$10.5 million from the exercise of stock options.

Net cash used in financing activities was \$41.1 million for the year ended December 31, 2017 as a result of repurchases of common stock under our stock repurchase program of \$80.0 million , partially offset by proceeds of \$26.5 million from the purchases of stock under our 2013 ESPP and \$12.4 million from the exercise of stock options.

Net cash provided by financing activities was \$14.3 million for the year ended December 31, 2016 as a result of proceeds of \$22.4 million from the purchase of stock under our 2013 ESPP and \$11.9 million from the exercise of stock options, partially offset by repurchases of common stock under our stock repurchase program of \$20.0 million.

Stock Repurchase Program

On November 1, 2016, we announced that our board of directors approved a stock repurchase program, under which we were authorized to repurchase up to \$200 million of our outstanding Class A common stock. On April 26, 2018, our board of directors authorized us to repurchase up to an additional \$300 million of our outstanding Class A common stock under our previously announced stock repurchase program. The repurchase program has no expiration date and may be modified, suspended or discontinued at any time. Repurchases under the program may be made from time to time on the open market at prevailing market prices, in privately negotiated transactions, in transactions structured through investment banking institutions or a combination of the foregoing, in compliance with Rule 10b-18 under the Exchange Act.

During the year ended December 31, 2018, we repurchased 1,220,596 shares of our outstanding Class A common stock, at an average price of \$98.33 per share for \$120.0 million. During the year ended December 31, 2017, we repurchased 1,264,428 shares of our outstanding Class A common stock, at an average price of \$63.26 per share for \$80.0 million. During the year ended December 31, 2016, we repurchased 446,517 shares of our outstanding Class A common stock at an average price of \$44.81 per share for \$20.0 million. All repurchases were made in open market transactions using cash on hand and all of the shares repurchased were retired. As of December 31, 2018, we were authorized to repurchase a remaining \$280.0 million of our Class A common stock under our repurchase program.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements (as defined by applicable SEC regulations) that are reasonably likely to have a current or future material effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

Obligations and Commitments

The following table represents our contractual obligations as of December 31, 2018:

	Payments Due by Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
	(in thousands)				
Operating lease obligations ⁽¹⁾	\$ 346,444	\$ 34,657	\$ 83,064	\$ 91,894	\$ 136,829
Contractual commitments	42,631	24,295	18,140	196	—

(1) Amounts represent our operating lease obligations, net of total expected sublease receipts of \$20.0 million.

As of December 31, 2018, our principal obligations consisted of obligations outstanding under operating leases. We lease our facilities under operating leases that expire at various dates through 2030. See Note 11 and Note 16 of the accompanying notes to the consolidated financial statements for additional information on our operating leases.

Our contractual commitment amounts in the table above are associated with agreements that are enforceable and legally binding and that specify all significant terms, including fixed or minimum services to be used, fixed, minimum or variable price provisions, and the approximate timing of the transaction. Obligations under contracts that we can cancel without a significant penalty are not included in the table above.

As of December 31, 2018, we had approximately \$3.1 million of recorded liabilities pertaining to uncertain tax positions. We are unable to make a reasonable estimate as to when cash settlement with the tax authorities might occur due to the uncertainties related to these tax matters. Payments of these obligations would result from settlements with taxing authorities. As we are unable to make reasonably reliable estimates of the timing of any cash payments to the tax authorities as a result of future settlements, these obligations are not included in the table. See Note 10 of the accompanying notes to the consolidated financial statements for additional information on our uncertain tax positions.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to financial market risks, primarily changes in interest rates. Market risk is the potential loss arising from adverse changes in market rates and prices.

Interest Rate Risk

We had cash equivalents and investments of \$1.01 billion as of December 31, 2018 . Cash equivalents and investments were invested primarily in money market funds, commercial paper, U.S. treasury securities, U.S. agency securities and corporate bonds. We hold our cash equivalents and short-term investments for working capital purposes. The primary objective of our investment activities is to preserve principal and maintain liquidity while maximizing total return.

Our cash equivalents and investments are subject to market risk due to changes in interest rates. Our future interest income may fluctuate due to changes in interest rates or we may suffer losses in principal if we are forced to sell securities that have declined in market value due to changes in interest rates. However, because we classify our investments as "available-for-sale," no gains or losses due to changes in interest rates are recognized in net income unless such investments are sold prior to maturity or declines in fair value are determined to be other-than-temporary. As of December 31, 2018 , a hypothetical 10% change in interest rates would not have a material impact on our consolidated financial statements.

Foreign Currency Exchange Risk

Our results of operations and cash flows are subject to fluctuations due to changes in foreign currency exchange rates. Most of our revenues are generated in U.S. dollars. Our expenses are generally denominated in the currencies in which our operations are located, which is primarily in the United States and to a lesser extent in Europe and Asia. Our results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates and may be adversely affected in the future due to changes in foreign exchange rates. The effect of a hypothetical 10% change in foreign currency exchange rates applicable to our business would not have a material impact on our consolidated financial statements. To date, we have not engaged in any foreign currency hedging strategies. As our international operations grow, we may generate revenues in other foreign currencies, and we will continue to reassess our approach to manage our risk relating to fluctuations in currency rates .

Inflation

We do not believe that inflation had a material effect on our business, financial condition or results of operations in the last three years. If our costs were to become subject to significant inflationary pressures, we may not be able to fully offset such higher costs through price increases. Our inability or failure to do so could harm our business, financial condition and results of operations.

ITEM 8. CONSOLIDATED FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

TABLEAU SOFTWARE, INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm	70
Consolidated Balance Sheets	72
Consolidated Statements of Operations	73
Consolidated Statements of Comprehensive Loss	74
Consolidated Statements of Stockholders' Equity	75
Consolidated Statements of Cash Flows	76
Notes to Consolidated Financial Statements	77

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Tableau Software, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Tableau Software, Inc. and its subsidiaries (the "Company") as of December 31, 2018 and 2017, and the related consolidated statements of operations, of comprehensive loss, of stockholders' equity and of cash flows for each of the three years in the period ended December 31, 2018, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it accounts for revenues from contracts with customers in 2018.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in

accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP
Seattle, Washington
February 22, 2019

We have served as the Company's auditor since 2006.

**TABLEAU SOFTWARE, INC.
CONSOLIDATED BALANCE SHEETS**

	December 31, 2018	December 31, 2017
	(in thousands, except share data)	
Assets		
Current assets		
Cash and cash equivalents	\$ 653,022	\$ 627,878
Short-term investments	369,355	226,787
Accounts receivable, net	236,063	203,366
Prepaid expenses and other current assets	155,012	30,514
Income taxes receivable	2,268	673
Total current assets	1,415,720	1,089,218
Long-term investments	26,278	148,364
Property and equipment, net	94,537	106,753
Goodwill	42,530	35,083
Deferred income taxes	4,733	5,287
Other long-term assets	50,927	14,090
Total assets	\$ 1,634,725	\$ 1,398,795
Liabilities and stockholders' equity		
Current liabilities		
Accounts payable	\$ 6,652	\$ 4,448
Accrued compensation and employee-related benefits	105,155	96,390
Other accrued liabilities	55,896	37,722
Income taxes payable	2,982	4,743
Deferred revenue	377,892	419,426
Total current liabilities	548,577	562,729
Deferred revenue	16,306	28,058
Other long-term liabilities	56,257	54,385
Total liabilities	621,140	645,172
Commitments and contingencies (Note 11)		
Stockholders' equity		
Preferred stock, \$0.0001 par value, 10,000,000 shares authorized; none issued	—	—
Class B common stock, \$0.0001 par value, 75,000,000 shares authorized; 11,042,131 and 14,492,846 shares issued and outstanding as of December 31, 2018 and 2017, respectively	1	1
Class A common stock, \$0.0001 par value, 750,000,000 shares authorized; 73,314,823 and 65,969,499 shares issued and outstanding as of December 31, 2018 and 2017, respectively	7	7
Additional paid-in capital	1,340,628	1,168,563
Accumulated other comprehensive loss	(11,458)	(11,991)
Accumulated deficit	(315,593)	(402,957)
Total stockholders' equity	1,013,585	753,623
Total liabilities and stockholders' equity	\$ 1,634,725	\$ 1,398,795

The accompanying notes are an integral part of these consolidated financial statements.

TABLEAU SOFTWARE, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,		
	2018	2017	2016
	(in thousands, except per share amounts)		
Revenues			
License	\$ 555,581	\$ 429,204	\$ 481,659
Maintenance and services	599,771	447,855	345,284
Total revenues	1,155,352	877,059	826,943
Cost of revenues			
License	21,407	13,534	7,003
Maintenance and services	121,217	100,025	92,087
Total cost of revenues ⁽¹⁾	142,624	113,559	99,090
Gross profit	1,012,728	763,500	727,853
Operating expenses			
Sales and marketing ⁽¹⁾	593,786	517,446	476,506
Research and development ⁽¹⁾	382,886	334,148	302,759
General and administrative ⁽¹⁾	125,805	102,871	88,149
Total operating expenses	1,102,477	954,465	867,414
Operating loss	(89,749)	(190,965)	(139,561)
Other income, net	17,872	12,266	2,134
Loss before income tax expense	(71,877)	(178,699)	(137,427)
Income tax expense	5,165	6,861	7,022
Net loss	\$ (77,042)	\$ (185,560)	\$ (144,449)
Net loss per share:			
Basic	\$ (0.93)	\$ (2.35)	\$ (1.92)
Diluted	\$ (0.93)	\$ (2.35)	\$ (1.92)
Weighted average shares used to compute net loss per share:			
Basic	82,632	78,869	75,162
Diluted	82,632	78,869	75,162

(1) Includes stock-based compensation expense as follows:

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Cost of revenues	\$ 13,392	\$ 11,029	\$ 10,595
Sales and marketing	87,105	74,065	68,411
Research and development	111,965	104,280	91,044
General and administrative	26,269	20,909	15,662

The accompanying notes are an integral part of these consolidated financial statements.

TABLEAU SOFTWARE, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Net loss	\$ (77,042)	\$ (185,560)	\$ (144,449)
Other comprehensive income (loss), net of tax:			
Foreign currency translation	(937)	(12,920)	950
Net unrealized loss on available-for-sale securities	(213)	(664)	—
Comprehensive loss	<u>\$ (78,192)</u>	<u>\$ (199,144)</u>	<u>\$ (143,499)</u>

The accompanying notes are an integral part of these consolidated financial statements.

TABLEAU SOFTWARE, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Common Stock (Class A and B)		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
(in thousands, except share information)						
Balances as of December 31, 2015	73,204,464	\$ 7	\$ 805,804	\$ 643	\$ (72,509)	\$ 733,945
Issuance of common stock	3,960,475	1	34,356	—	—	34,357
Repurchase of common stock	(446,517)	—	(20,009)	—	—	(20,009)
Stock-based compensation expense	—	—	185,712	—	—	185,712
Excess tax benefit from stock-based compensation	—	—	1,342	—	—	1,342
Other comprehensive income, net	—	—	—	950	—	950
Net loss	—	—	—	—	(144,449)	(144,449)
Balances as of December 31, 2016	76,718,422	8	1,007,205	1,593	(216,958)	791,848
Cumulative effect of a change in accounting principle related to stock-based compensation	—	—	439	—	(439)	—
Issuance of common stock	5,008,351	—	38,856	—	—	38,856
Repurchase of common stock	(1,264,428)	—	(79,991)	—	—	(79,991)
Stock-based compensation expense	—	—	202,054	—	—	202,054
Other comprehensive loss, net	—	—	—	(13,584)	—	(13,584)
Net loss	—	—	—	—	(185,560)	(185,560)
Balances as of December 31, 2017	80,462,345	8	1,168,563	(11,991)	(402,957)	753,623
Cumulative effect of a change in accounting principle related to revenue recognition	—	—	—	1,683	164,406	166,089
Issuance of common stock	5,115,205	—	44,710	—	—	44,710
Repurchase of common stock	(1,220,596)	—	(120,024)	—	—	(120,024)
Stock-based compensation expense	—	—	247,379	—	—	247,379
Other comprehensive loss, net	—	—	—	(1,150)	—	(1,150)
Net loss	—	—	—	—	(77,042)	(77,042)
Balances as of December 31, 2018	84,356,954	\$ 8	\$ 1,340,628	\$ (11,458)	\$ (315,593)	\$ 1,013,585

The accompanying notes are an integral part of these consolidated financial statements.

TABLEAU SOFTWARE, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Operating activities			
Net loss	\$ (77,042)	\$ (185,560)	\$ (144,449)
Adjustments to reconcile net loss to net cash provided by operating activities			
Depreciation and amortization expense	35,787	44,746	43,006
Amortization (accretion) on investments, net	(424)	359	—
Stock-based compensation expense	238,731	210,283	185,712
Deferred income taxes	(2,180)	(2,988)	1,219
Changes in operating assets and liabilities			
Accounts receivable, net	(36,519)	12,493	(78,197)
Prepaid expenses and other assets	(95,347)	8,054	(18,987)
Income taxes receivable	(1,675)	(515)	(56)
Deferred revenue	56,555	123,938	116,860
Accounts payable and accrued liabilities	38,396	13,529	71,157
Income taxes payable	(1,586)	2,528	997
Net cash provided by operating activities	154,696	226,867	177,262
Investing activities			
Purchases of property and equipment	(20,446)	(61,823)	(60,732)
Business combinations, net of cash acquired	(10,947)	(23,966)	(16,399)
Purchases of investments	(285,277)	(421,719)	—
Maturities of investments	262,835	30,630	—
Sales of investments	2,171	14,916	—
Net cash used in investing activities	(51,664)	(461,962)	(77,131)
Financing activities			
Proceeds from issuance of common stock	44,710	38,856	34,356
Repurchases of common stock	(120,024)	(79,991)	(20,009)
Net cash provided by (used in) financing activities	(75,314)	(41,135)	14,347
Effect of exchange rate changes on cash and cash equivalents	(2,574)	(4,609)	(1,661)
Net increase (decrease) in cash and cash equivalents	25,144	(280,839)	112,817
Cash and cash equivalents			
Beginning of year	627,878	908,717	795,900
End of year	\$ 653,022	\$ 627,878	\$ 908,717
Supplemental disclosures			
Cash paid for income taxes	\$ 5,819	\$ 4,347	\$ 1,513
Non-cash activities			
Accrued purchases of property and equipment	7,885	6,470	26,548

The accompanying notes are an integral part of these consolidated financial statements.

TABLEAU SOFTWARE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1. Description of Business

Tableau Software, Inc., a Delaware corporation, and its wholly-owned subsidiaries (the "Company", "we", "us" or "our") are headquartered in Seattle, Washington. Our software products put the power of data into the hands of everyday people, allowing a broad population of business users to engage with their data, ask questions, solve problems and create value. Based on innovative core technologies originally developed at Stanford University, our products dramatically reduce the complexity, inflexibility and expense associated with traditional business intelligence applications. We currently offer five key products: Tableau Desktop, a self-service, powerful analytics product for anyone with data; Tableau Server, a business intelligence platform for organizations; Tableau Online, a hosted software-as-a-service ("SaaS") version of Tableau Server; Tableau Prep, a data preparation product for combining, shaping and cleaning data; and Tableau Public, a free cloud-based platform for analyzing and sharing public data.

Note 2. Summary of Significant Accounting Policies**Accounting Principles**

The consolidated financial statements and accompanying notes were prepared in accordance with accounting principles generally accepted in the United States ("GAAP").

We adopted the new revenue recognition accounting standard, codified as Accounting Standards Codification ("ASC") 606, effective January 1, 2018 on a modified retrospective basis (see *Recently Adopted Accounting Pronouncements*). Financial results for reporting periods during 2018 are presented in compliance with the new revenue recognition standard. Historical financial results for reporting periods prior to 2018 are presented in conformity with amounts previously disclosed under the prior revenue recognition standard, ASC 605. These financial statements include additional information regarding the impacts from the adoption of the new revenue recognition standard on our financial results for the year ended December 31, 2018. This includes the presentation of financial results for the year ended December 31, 2018 under ASC 605 for comparison to the prior year.

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates include but are not limited to: the collectability of our receivables; the evaluation of our contract assets for impairment; the useful lives of our property and equipment and other lease-related assets, liabilities and costs; the benefit period for deferred commissions; the valuation of investments and the determination of other-than-temporary impairments; and the reported amounts of accrued liabilities. For revenue, we make estimates and assumptions related to the standalone selling prices of our products and services and the nature and timing of the delivery of performance obligations from our contracts with customers. We also use estimates in stock-based compensation, income taxes and business combinations. Actual results could differ from those estimates.

Foreign Currency

The financial statements of our foreign subsidiaries with a functional currency other than U.S. dollars have been translated into U.S. dollars. Assets and liabilities of these subsidiaries are translated at the exchange rate in effect at each period-end. Income statement amounts are translated at the average rate of exchange prevailing during the period. Translation adjustments arising from the use of differing exchange rates from period to period are included in other comprehensive income (loss). As of December 31, 2018 and 2017, we had a cumulative translation loss of \$(10.6) million and \$(11.3) million, respectively.

Gains and losses on foreign currency transactions are included in other income, net. Foreign currency transaction gains (losses) were \$(0.5) million, \$4.1 million and \$(0.6) million for the years ended December 31, 2018, 2017 and 2016, respectively.

Risks and Uncertainties

Inherent in our business are various risks and uncertainties, including our limited history of operating our business at its current scale and development of advanced technologies in a rapidly changing industry. These risks include our ability to manage our growth, to attract new customers, to expand sales to existing customers and to attract, integrate and retain qualified personnel, as well as other risks and uncertainties. In the event that we do not successfully implement our business plan, certain assets may not be recoverable, certain liabilities may not be paid and investments in our capital stock may not be recoverable. Our success depends upon the acceptance of our technology, development of sales and distribution channels and our ability to generate significant revenues from the sale of our technology.

Segments

We follow the authoritative literature that established annual and interim reporting standards for an enterprise's operating segments and related disclosures about its products and services, geographic regions and major customers.

We operate our business as one operating segment. Our chief operating decision makers ("CODM") are our Chief Executive Officer and Chief Financial Officer, who review financial information presented on a consolidated basis for purposes of making operating decisions, assessing financial performance and allocating resources.

Revenue Recognition - ASC 606

We generate revenues primarily in the form of software license fees and related maintenance and services fees. Software license revenues include fees from the sales of perpetual, term and subscription licenses. Maintenance and services revenues primarily consist of fees for maintenance services (including support and unspecified upgrades and enhancements if and when they are available), training and professional services.

We recognize revenues related to contracts with customers that meet the following criteria:

- the contract contains reasonable evidence of approval and of both parties' commitment to perform their respective obligations;
- the contract includes identifiable rights to goods and/or services to be transferred and payment terms related to the transfer of those goods and/or services;
- the contract has commercial substance; and
- collection of substantially all of the consideration we are entitled to under the contract is probable.

We identify performance obligations in our contracts with customers, which may include software licenses and/or related maintenance and services. We determine the transaction price based on the amount of consideration we expect to receive in exchange for transferring the promised goods or services to the customer. We allocate the transaction price in the contract to each distinct performance obligation in an amount that depicts the relative amount of consideration we expect to receive in exchange for satisfying each performance obligation. Revenue is recognized when performance obligations are satisfied.

Our contract payment terms are typically net 30 days. We assess collectability based on a number of factors including collection history and creditworthiness of the customer, and we may mitigate exposures to credit risk by requiring payments in advance. If we determine that collectability related to a contract is not probable, we may not record revenue until collectability becomes probable at a later date.

Our revenues are recorded based on the transaction price excluding amounts collected on behalf of third parties. For example, indirect taxes which we collect and remit to governmental authorities are excluded from our revenues.

Nature of Products and Services

Our on-premises software licenses are sold through both perpetual and term-based license agreements. These licensing arrangements provide customers with the same product functionality and differ mainly in the duration over which the customer benefits from the software. We deliver our software licenses electronically. Electronic delivery occurs when we provide the customer with access to the software and license key via a secure portal. Revenue from on-premises software licenses is generally recognized upfront at the point in time when the software is made available to the customer.

Our contracts with customers for on-premises software licenses include maintenance services and may also include training and/or professional services. Maintenance services agreements consist of fees for providing software updates on an if and when available basis and for providing technical support for software products for a specified term. We believe that our software updates and technical support each have the same pattern of transfer

to the customer and are substantially the same. Therefore, we consider these updates and technical support to be a single distinct performance obligation. Revenues allocated to maintenance services are recognized ratably as the maintenance services are provided. Revenues related to training services are billed on a fixed fee basis and are recognized as the services are delivered. Payments received in advance of services performed are deferred and recognized when the related services are performed. Revenues related to professional services are billed on a time and materials basis and are recognized as the services are performed.

We also provide cloud-based subscriptions, which allow customers to access our software during a contractual period without taking possession of the software. We recognize revenue related to these cloud-based subscriptions ratably over the life of the subscription agreement beginning when the customer first has access to the software. Revenues from our cloud-based subscriptions are included in license revenues.

Judgments and Estimates

Our contracts with customers often include promises to transfer multiple products and services. Determining whether products and services are considered distinct performance obligations that should be accounted for separately from one another sometimes requires judgment.

Judgment is also required to determine standalone selling prices ("SSP"s) for each distinct performance obligation. We typically have more than one SSP for each of our products and services based on customer stratification, which is based on the size of the customer, their geographic region and market segment. For perpetual software licenses, we estimate SSPs by considering our pricing objectives and discounting practices. For our cloud-based subscriptions and for maintenance services, training and professional services, SSPs are generally observable using standalone sales and/or renewals. Our on-premises term-based software licenses generally do not have directly observable inputs for determining SSP. Therefore, we determine SSP using other observable inputs including customer-buying patterns, renewal rates and cumulative spend comparisons.

We evaluate contracts with customers that include options to purchase additional goods or services to determine whether the options give rise to a separate performance obligation that is material. If we determine the options give rise to a separate performance obligation that is material, the revenue allocated to such options is not recognized until the option is exercised or the option expires.

Assets Recognized from the Costs to Obtain a Contract with a Customer

We recognize an asset for the incremental costs of obtaining a contract with a customer if we expect the benefit of those costs to be longer than one year. We have determined that certain costs related to our sales incentive programs meet the requirements to be capitalized and deferred. Assets recorded are included in prepaid expenses and other current assets and other long-term assets. We amortize these deferred costs proportionate with related revenues over the benefit period, currently estimated to be four years. We consider the benefit period to exceed the initial contract term for certain costs because of anticipated renewals and because our sales commission rates for renewal contracts are not commensurate with sales commissions for initial contracts. Prior to our adoption of the new revenue recognition standard, we recognized sales commissions expense as incurred.

Contract Assets

Contract assets represent the portion of the transaction price from a contract with a customer where control has transferred, but for which we currently do not have the contractual right to invoice. These assets, included within prepaid expenses and other current assets, are also subject to impairment risk. We reduce our gross contract asset balance for any impairments identified based on our consideration of a combination of factors including past collection experience, credit quality of the customer, age of other receivables balances due from the customer and current economic conditions.

Revenue Recognition - ASC 605

Our revenue recognition accounting policy for ASC 605 is shown below. We applied the revenue recognition accounting policy for ASC 605 to our disclosures in Note 8, which include amounts presented for 2018.

We generate revenues primarily in the form of software license fees and related maintenance and services fees. Software license fees include fees from the sales of perpetual, term and subscription licenses. Maintenance and services fees primarily consist of fees for maintenance services (including support and unspecified upgrades and enhancements when and if they are available), training and professional services that are not essential to the functionality of the software.

We recognize revenues when all of the following conditions are met:

- there is persuasive evidence of an arrangement;

- the software or services have been delivered to the customer;
- the amount of fees to be paid by the customer is fixed or determinable; and
- the collection of the related fees is probable.

We use click-through license agreements, signed agreements and purchase orders as evidence of an arrangement. We deliver all of our software electronically. Electronic delivery occurs when we provide the customer with access to the software and license key via a secure portal. We assess whether the fee is fixed or determinable at the outset of the arrangement. Our typical terms of payment are due 30 days from delivery. We assess collectability based on a number of factors such as collection history and creditworthiness of the customer. If we determine that collectability is not probable, revenue is deferred until collectability becomes probable, generally upon receipt of cash.

Substantially all of our software licenses are sold in multiple-element arrangements that include maintenance services and may include professional services and training.

Vendor specific objective evidence ("VSOE") of the fair value for software licenses is not available as our software licenses are never sold without maintenance; however, VSOE generally exists for all undelivered elements and any services that are not essential to the functionality of the delivered software. Therefore, we account for delivered software licenses under the residual method.

Maintenance agreements consist of fees for providing software updates on a when and if available basis and technical support for software products ("post-contract support" or "PCS") for an initial term, generally one year. We have established VSOE of the fair value for maintenance on perpetual licenses based on stated substantive renewal rates or the price when sold on a standalone basis. Stated renewal rates are considered to be substantive if they are at least 15% of the actual price charged for the software license. VSOE of the fair value for standalone maintenance contracts is considered to have been established when a substantial majority of individual sales transactions within the previous 12 months falls within a reasonably narrow range, which we have defined to be plus or minus 15% of the median sales price of actual standalone sales transactions.

License arrangements may include professional services and training. In determining whether professional services and training revenues should be accounted for separately from license revenues, we evaluate:

- whether such services are considered essential to the functionality of the software using factors such as the nature of the software products;
- whether they are ready for use by the customer upon receipt;
- the nature of the services, which typically do not involve significant customization to or development of the underlying software code;
- the availability of services from other vendors;
- whether the timing of payments for license revenues coincides with performance of services; and
- whether milestones or acceptance criteria exist that affect the realizability of the software license fee.

To date, professional services have not been considered essential to the functionality of the software. The VSOE of the fair value of our professional services and training is based on the price for these same services when they are sold separately. Revenues related to professional services are billed on a time and materials basis and are recognized as the services are performed.

Revenues related to training services are billed on a fixed fee basis and are recognized as the services are delivered. Payments received in advance of services performed are deferred and recognized when the related services are performed.

When software is licensed for a specified term or on a subscription basis, fees for maintenance and support are generally bundled with the license fee over the entire term of the contract. In these cases, we do not have VSOE of the fair value for maintenance and support. Revenues related to term and subscription license fees are recognized ratably over the contract term beginning on the date the customer has access to the software license key and continuing through the end of the contract term.

We do not offer refunds and therefore have not recorded any sales return allowance for any of the periods presented. Upon a periodic review of outstanding accounts receivable, amounts that are deemed to be uncollectable are written off against the allowance for doubtful accounts.

We account for taxes collected from customers and remitted to governmental authorities on a net basis and exclude them from revenues.

Cash and Cash Equivalents

We consider all highly liquid investments purchased with an original or remaining maturity of three months or less at the date of purchase to be cash equivalents. Cash and cash equivalents are recorded at fair value. We maintain cash and cash equivalent balances which exceed the insured limits by the Federal Deposit Insurance Corporation.

Investments

We classify our investment securities as available-for-sale. Our investment securities are stated at fair value and reported in short-term investments and long-term investments. Investments in securities with maturities of less than one year, or where management's intent is to use the investments to fund current operations, are classified as short-term investments. Investments with maturities greater than one year are classified as long-term investments. Unrealized gains and losses on available-for-sale securities are excluded from net income and reported, net of tax, in other comprehensive income (loss). Realized gains and losses and declines in the value of securities judged to be other-than-temporary are determined based on the specific identification method and are included in other income, net. In order to determine whether a decline in value is other-than-temporary, we evaluate, among other factors, our intent and ability to recover the amortized cost basis of the security. Interest on securities classified as available-for-sale is included in other income, net.

Accounts Receivable, Net

Accounts receivable consist of amounts billed and currently due from customers. Our accounts receivable are subject to collection risk. Our gross accounts receivable is reduced for this risk by a provision for doubtful accounts. This provision is for estimated losses resulting from the inability of our customers to make required payments. It is an estimate and is regularly evaluated for adequacy by taking into consideration a combination of factors. We look at factors such as past collection experience, credit quality of the customer, age of the receivable balance and current economic conditions. These factors are reviewed to determine whether a provision for doubtful accounts should be recorded to reduce the receivable balance to the amount believed to be collectible.

Activity related to our provision for doubtful accounts was as follows:

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Balance at the beginning of the year	\$ 1,003	\$ 1,065	\$ 888
Bad debt expense	1,168	650	750
Accounts written off	(563)	(712)	(573)
Balance at the end of the year	<u>\$ 1,608</u>	<u>\$ 1,003</u>	<u>\$ 1,065</u>

Property and Equipment, Net

Property and equipment are stated at cost, net of accumulated depreciation. Depreciation is calculated using the straight-line method over the estimated useful lives of the assets. The estimated useful lives range from approximately one to twelve years. Leasehold improvements are depreciated over the shorter of the estimated useful life or the remaining lease term. When assets are retired or disposed of, the cost and accumulated depreciation are removed from the accounts, and any resulting gains or losses are included in results of operations. Maintenance and repairs that do not improve or extend the lives of the respective assets are charged to expense in the period incurred.

Business Combinations

As of the date of an acquisition, we recognize the identifiable assets acquired and liabilities assumed at fair value. Intangible assets acquired are measured at their acquisition date fair value using valuation techniques that are subject to judgment. Any excess of the consideration over the fair value of identifiable net assets is recorded as goodwill. Amounts that are not part of the consideration transferred are recognized separately from a business combination and are expensed as incurred.

Goodwill and Intangible Assets

Intangible assets with a finite life are typically amortized over their useful lives which range from three to five years. Goodwill is tested for impairment on an annual basis in the third quarter and more frequently if circumstances indicate that the carrying value may not be recoverable. As part of our goodwill impairment test, we first perform a

qualitative assessment to determine whether it is more likely than not that the fair value of our reporting unit is less than its carrying amount. For purposes of this assessment, we consider the enterprise to be the reporting unit. If we determine it is more likely than not that the fair value of our reporting unit is less than its carrying amount, we will perform a quantitative assessment to determine whether the fair value of our reporting unit is less than its carrying amount. We have not had any impairments of the goodwill balance.

Leases

Leases are categorized at their inception as either operating or capital leases. Within some lease agreements, rent holidays and other incentives are included. Rent expense is recognized using the straight-line method over the term of the agreement, which generally begins once control of the space is obtained. Any cash incentives received are treated as a reduction of expense over the term of the agreement.

Impairment of Long-Lived Assets

Property and equipment, intangible assets with a finite life and other long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Recoverability of an asset to be held and used is tested by comparing the carrying amount of the asset to the estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds the fair value of the asset. No impairment of long-lived assets occurred in the periods presented.

Software Development Costs

Software development costs associated with the development of new products, enhancements of existing products and quality assurance activities consist of employee, consulting and other external personnel costs. The costs incurred internally from the research and development ("R&D") of computer software products are charged to expense until technological feasibility has been established for the product. Once technological feasibility is established, all software costs are capitalized until the product is available for release to customers. Judgment is required in determining when technological feasibility of a product is established. To date, we have determined that technological feasibility of software products is reached shortly before the products are released. Costs incurred after establishment of technological feasibility have not been material, and therefore, we have expensed all R&D costs as they were incurred. R&D expenses primarily consist of personnel-related costs attributable to our R&D personnel and allocated overhead, which includes facilities-related costs.

We capitalize certain costs relating to software developed or modified solely to meet our internal requirements and for which there are no substantive plans to market the software. To date, we have not capitalized any such costs as these costs have not been material.

Intangible Asset Costs

Costs related to filing and pursuing patent and trademark applications are expensed as incurred, as recoverability of such expenditures is uncertain. These intangible asset-related legal costs are generally reported as a component of general and administrative expenses.

Advertising Expenses

We expense all advertising costs as incurred and classify such costs as sales and marketing expenses. Advertising expenses for the years ended December 31, 2018, 2017 and 2016 were \$36.5 million, \$28.2 million and \$21.7 million, respectively.

Income Taxes

Income taxes are accounted for under the asset and liability method in accordance with authoritative guidance for income taxes. Deferred income tax assets are recognized for deductible temporary differences, net operating loss carryforwards, and tax credit carryforwards if it is more likely than not that the tax benefits will be realized. We consider future taxable income, historical operating results and ongoing prudent and feasible tax planning strategies in assessing the need for a valuation allowance. A valuation allowance is recorded to reduce our deferred income tax assets to the net amount that we believe is more likely than not to be realized. In the event we determine that we are able to realize our deferred income tax assets in excess of our net recorded amount, we would reduce the valuation allowance associated with the deferred income tax assets in the period the determination is made, which may result in a tax benefit in the statement of operations.

Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The

effect on deferred income tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

Our assumptions, judgments and estimates relative to the value of net deferred income taxes take into account predictions of the amount and category of future taxable income, such as income from operations or capital gains income. Actual operating results and the underlying amount and category of income in future years could render our current assumptions, judgments and estimates of recoverable net deferred income taxes inaccurate. Any of the assumptions, judgments and estimates mentioned above could cause our actual income tax obligations to differ from our estimates, thus materially impacting our financial position and results of operations.

Concentrations of Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash and cash equivalents, investments, accounts receivable and contract assets.

Our investment portfolio consists of investment-grade securities diversified among security types, industries and issuers. Our cash and cash equivalents and investments are held and managed by recognized financial institutions that follow our investment policy. Our policy limits the amount of credit exposure to any one security issue or issuer.

We extend credit to customers based upon an evaluation of the customer's financial condition. As of December 31, 2018 and 2017, no individual customer accounted for 10% or more of total accounts receivable. As of December 31, 2018, no individual customer accounted for 10% or more of total contract assets. For the years ended December 31, 2018, 2017 and 2016, no individual customer represented 10% or more of our total revenues.

Fair Value Measurements

We categorize assets and liabilities recorded at fair value on our consolidated balance sheets based upon the level of judgment associated with inputs used to measure their fair value. The levels of the fair value hierarchy are as follows:

- Level 1—Inputs are unadjusted quoted prices in active markets for identical assets or liabilities.
- Level 2—Inputs are quoted prices for similar assets and liabilities in active markets or quoted prices for identical or similar instruments in markets that are not active and model-derived valuations in which all significant inputs and significant value drivers are observable in active markets.
- Level 3—Inputs are unobservable inputs based on our own assumptions and valuation techniques used to measure assets and liabilities at fair value. The inputs require significant management judgment or estimation.

Our assessment of the significance of a particular input to the fair value measurement requires judgment and may affect the valuation of fair value assets and liabilities and their placement within the fair value hierarchy levels.

We establish fair value of our assets and liabilities using the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date and using a fair value hierarchy based on the inputs used to measure fair value. The carrying amounts reported in the consolidated financial statements approximate the fair value for accounts receivable, accounts payable, and accrued and other current liabilities, due to their short-term nature. We value our cash equivalents and investments using quoted prices for identical instruments in active markets when available. If we are unable to obtain quoted prices for identical instruments in active markets, we value our cash equivalents and investments using quoted market prices for comparable instruments. To date, all of our cash equivalents and investments have been valued using one of these two methodologies.

Stock-Based Compensation

We record compensation expense for stock-based transactions including employee and non-employee stock option and restricted stock unit ("RSU") awards granted under our 2004 Equity Incentive Plan (the "2004 Plan") and our 2013 Equity Incentive Plan, as amended, (the "2013 Plan" and together with the 2004 Plan, the "Plans"). We also record compensation expense related to employee contributions made under our 2013 Employee Stock Purchase Plan ("2013 ESPP"). These contributions are used to purchase shares of our Class A common stock at a discount.

Stock-based compensation expense is measured and recognized in the financial statements based on fair value. The fair value of each RSU award is determined based on the closing price of our Class A common stock as reported on the New York Stock Exchange on the date of grant. The fair value of each stock option award is

determined at the date of grant by applying the Black-Scholes option pricing model. We also use the Black-Scholes option pricing model to determine the fair value of each common share issued under the 2013 ESPP. The fair value for 2013 ESPP grants is determined on the first day of each offering period.

The Black-Scholes option pricing model utilizes the value of our underlying common stock at the measurement date, the expected or contractual term of the option or offering period, the expected volatility of our common stock, risk-free interest rates and expected dividend yield of our common stock. Prior to our initial public offering ("IPO") in May 2013, the fair value of our common stock was determined by our board of directors. After the completion of our IPO, our common stock has been valued by reference to the closing price of our Class A common stock as reported on the New York Stock Exchange.

We recognize stock-based compensation expense using the straight-line method over the requisite service period. We account for forfeitures as they occur. For awards subject to technology milestones, we recognize compensation cost over the requisite service period if it is probable that the technology milestone will be met. If our assessment of the probability of the technology milestone being met changes, we recognize the impact of the change in estimate in the period of the change. Excess tax benefits and deficiencies resulting from the settlement of stock awards are recorded to income tax expense (benefit).

Recently Adopted Accounting Pronouncements

We adopted the new revenue recognition accounting standard, codified as ASC 606, effective January 1, 2018. The new revenue recognition standard changed the way we recognize revenue, including the identification of contractual performance obligations and the allocation of transaction price, to depict the transfer of promised goods or services to customers at the amount that reflects the consideration to which we expect to be entitled in exchange for those goods or services. We adopted the new revenue recognition standard on a modified retrospective basis and applied the new revenue recognition standard only to contracts that were not completed prior to January 1, 2018. Upon adoption, we recorded an adjustment of \$146.8 million to our accumulated deficit. The adjustment was offset by a \$105.9 million reduction to deferred revenue, which was primarily related to on-premises term licenses, and the addition of a \$40.9 million contract asset.

The new revenue recognition standard materially impacts the timing of revenue recognition related to our on-premises term license agreements. Prior to our adoption of the new revenue recognition standard, we historically recognized revenue related to on-premises term license agreements ratably over the term of the licensing agreement. These revenues were then included in license revenues. Under the new revenue recognition standard, revenue allocable to the license portion of the arrangement is recognized in license revenues upon delivery of the license. Revenues allocated to maintenance services continue to be recognized ratably and are included in maintenance and services revenues. Under the new revenue recognition standard, we allocate total transaction price to performance obligations based on estimated standalone selling prices, which impacts the timing of revenue recognition depending on when each performance obligation is recognized. These impacts to the timing of revenue recognition also affect our deferred revenue balances.

The new revenue recognition standard requires the capitalization of certain incremental costs of obtaining a contract, which impacts the periods in which we record our sales commissions expense. Prior to our adoption of the new revenue recognition standard, we recognized sales commissions expense as incurred. Under the new revenue recognition standard, we are required to recognize these expenses over the period of benefit associated with these costs. This results in a deferral of sales commissions expense each period and subsequent amortization of those costs over the estimated benefit period. Upon adoption of the new revenue recognition standard, we reduced our accumulated deficit by \$25.5 million and recognized an offsetting asset for deferred sales commissions related to contracts that were not completed prior to January 1, 2018.

For further discussion regarding the impacts of adopting the new revenue recognition standard, see Note 8.

In October 2016, the FASB issued Accounting Standards Update ("ASU") 2016-16 related to the accounting for income tax effects on intra-entity transfers of assets other than inventory. The new guidance requires reporting entities to recognize tax expense from the sale of assets when the transfer occurs, even though the pre-tax effects of the transaction are eliminated in consolidation. We adopted the new standard in the first quarter of 2018 on a modified retrospective basis. The adoption resulted in the recognition of a U.S. deferred tax asset, which was fully offset by a corresponding increase to the valuation allowance on our U.S. federal and state deferred income tax assets, and therefore did not have a material impact on our consolidated financial statements.

Recent Accounting Pronouncements Not yet Adopted

In February 2016, the FASB issued ASU 2016-02, a new lease accounting standard codified as ASC 842. ASC 842 will require lessees to recognize right-of-use assets and lease liabilities on the balance sheet for leases

with terms longer than 12 months. The new standard also will require additional disclosure of qualitative and quantitative information about the amounts recorded in the financial statements related to lease agreements. We will adopt the new lease accounting standard on January 1, 2019, using the modified retrospective transition method and recording a cumulative-effect balance sheet adjustment. In adopting ASC 842, we will utilize certain practical expedients available under the standard. These practical expedients include waiving reassessment of conclusions reached under the previous lease standard as to whether contracts contain leases, how to classify leases identified and how to account for initial direct costs incurred. We will also utilize the practical expedient to use hindsight as of the date of adoption to determine the terms of our leases and to evaluate our right-of-use assets for impairment. We plan to utilize certain policy elections available under ASC 842, including waiving the recognition of right-of-use assets and lease liabilities for leases with initial terms of 12 months or less, and combining lease and non-lease components when accounting for leases of real estate assets. Based on the size of our future operating lease commitments as of December 31, 2018 (discussed in Note 11), the adoption of the new lease accounting standard will have a material impact on our balance sheet on the date of adoption.

In June 2016, the FASB issued ASU 2016-13, related to credit losses. The new guidance replaces the existing incurred loss impairment model with an expected credit loss model and requires a financial asset measured at amortized cost to be presented at the net amount expected to be collected. ASU 2016-13 is effective for annual periods, including interim periods within those annual periods, beginning after December 15, 2019. Early adoption is permitted. We are currently evaluating the impact that this standard will have on our consolidated financial statements.

Note 3. Balance Sheet Detail

Property and Equipment, Net

Property and equipment, net consisted of the following:

	Useful Life (in months)	December 31, 2018 2017	
		(in thousands)	
Computer equipment and software	36	\$ 93,671	\$ 98,737
Furniture and fixtures	36	26,914	25,232
Leasehold improvements	12-150	86,082	85,482
Construction in progress		10,693	313
		217,360	209,764
Less: Accumulated depreciation		(122,823)	(103,011)
		<u>\$ 94,537</u>	<u>\$ 106,753</u>

Depreciation and amortization expense on our property and equipment and lease-related assets was \$34.0 million , \$43.9 million and \$42.7 million for the years ended December 31, 2018 , 2017 and 2016 , respectively.

Intangible Assets

The only changes to the carrying amount of intangible assets during 2018 were an increase of \$3.5 million related to our acquisition of Empirical Systems, Inc. (Note 7), and amortization expense. Amortization expense on our intangible assets was \$1.8 million , \$0.8 million and \$0.3 million for the years ended December 31, 2018 , 2017 and 2016 , respectively. Intangible assets are included within other long-term assets.

Goodwill

The only change to the carrying amount of goodwill during 2018 was an increase of \$7.4 million related to our acquisition of Empirical Systems, Inc. (Note 7).

Accrued Compensation and Employee-Related Benefits

Accrued compensation and employee-related benefits consisted of the following:

	December 31,	
	2018	2017
	(in thousands)	
Accrued commissions	\$ 33,820	\$ 31,333
Accrued bonuses	34,767	25,435
Accrued vacation	17,375	14,512
Other	19,193	25,110
Total	<u>\$ 105,155</u>	<u>\$ 96,390</u>

Note 4. Short-Term and Long-Term Investments

The following tables present our short-term and long-term investments in available-for-sale securities based on remaining contractual years to maturity:

	December 31, 2018			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
	(in thousands)			
Short-term investments				
Commercial paper	\$ 7,949	\$ —	\$ —	\$ 7,949
U.S. treasury securities	206,486	24	(457)	206,053
U.S. agency securities	18,576	—	(61)	18,515
Corporate bonds	137,119	—	(281)	136,838
Total short-term investments	<u>370,130</u>	<u>24</u>	<u>(799)</u>	<u>369,355</u>
Long-term investments				
U.S. treasury securities	13,352	5	(50)	13,307
Corporate bonds	13,025	2	(56)	12,971
Total long-term investments	<u>26,377</u>	<u>7</u>	<u>(106)</u>	<u>26,278</u>
Total short-term and long-term investments	<u>\$ 396,507</u>	<u>\$ 31</u>	<u>\$ (905)</u>	<u>\$ 395,633</u>

	December 31, 2017			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
	(in thousands)			
Short-term investments				
Commercial paper	\$ 9,970	\$ —	\$ —	\$ 9,970
U.S. treasury securities	160,206	—	(121)	160,085
U.S. agency securities	9,917	—	(24)	9,893
Corporate bonds	46,901	3	(65)	46,839
Total short-term investments	226,994	3	(210)	226,787
Long-term investments				
U.S. treasury securities	79,371	—	(202)	79,169
U.S. agency securities	18,570	—	(102)	18,468
Corporate bonds	50,880	—	(153)	50,727
Total long-term investments	148,821	—	(457)	148,364
Total short-term and long-term investments	\$ 375,815	\$ 3	\$ (667)	\$ 375,151

The following table presents the fair values and the gross unrealized losses related to our investments in available-for-sale securities that were in an unrealized loss position as of December 31, 2018, summarized by the length of time that the investments have been in a continuous unrealized loss position:

	December 31, 2018					
	Less Than 12 Months		12 Months or Greater		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
	(in thousands)					
Short-term investments						
U.S. treasury securities	\$ 89,320	\$ (143)	\$ 79,472	\$ (314)	\$ 168,792	\$ (457)
U.S. agency securities	—	—	18,515	(61)	18,515	(61)
Corporate bonds	91,455	(131)	45,383	(150)	136,838	(281)
Total short-term investments	180,775	(274)	143,370	(525)	324,145	(799)
Long-term investments						
U.S. treasury securities	9,855	(50)	—	—	9,855	(50)
Corporate bonds	11,389	(56)	—	—	11,389	(56)
Total long-term investments	21,244	(106)	—	—	21,244	(106)
Total short-term and long-term investments	\$ 202,019	\$ (380)	\$ 143,370	\$ (525)	\$ 345,389	\$ (905)

The unrealized losses on investments as of December 31, 2018 were primarily caused by increases in interest rates. None of the unrealized losses represent other-than-temporary impairments based on our evaluation of available evidence as of December 31, 2018. As of December 31, 2017, there were no investments that had been in a continuous unrealized loss position for 12 months or greater.

We earn interest on our cash equivalents and investments balances. For the years ended December 31, 2018, 2017 and 2016, we earned interest income of \$17.0 million, \$8.5 million and \$2.7 million, respectively.

Note 5. Fair Value Measurements

The following tables present the fair value of our financial assets using the fair value hierarchy:

December 31, 2018				
	Level 1	Level 2	Level 3	Total
(in thousands)				
Cash equivalents				
Money market funds	\$ 610,732	\$ —	\$ —	\$ 610,732
Corporate bonds	—	3,009	—	3,009
Short-term investments				
Commercial paper	—	7,949	—	7,949
U.S. treasury securities	—	206,053	—	206,053
U.S. agency securities	—	18,515	—	18,515
Corporate bonds	—	136,838	—	136,838
Long-term investments				
U.S. treasury securities	—	13,307	—	13,307
Corporate bonds	—	12,971	—	12,971
Total	\$ 610,732	\$ 398,642	\$ —	\$ 1,009,374

December 31, 2017				
	Level 1	Level 2	Level 3	Total
(in thousands)				
Cash equivalents				
Money market funds	\$ 582,835	\$ —	\$ —	\$ 582,835
Commercial paper	—	8,984	—	8,984
Short-term investments				
Commercial paper	—	9,970	—	9,970
U.S. treasury securities	—	160,085	—	160,085
U.S. agency securities	—	9,893	—	9,893
Corporate bonds	—	46,839	—	46,839
Long-term investments				
U.S. treasury securities	—	79,169	—	79,169
U.S. agency securities	—	18,468	—	18,468
Corporate bonds	—	50,727	—	50,727
Total	\$ 582,835	\$ 384,135	\$ —	\$ 966,970

We did not have any investments in prime money market funds as of December 31, 2018 or 2017. We did not have any material financial assets or liabilities measured using Level 3 inputs as of December 31, 2018 or 2017.

Note 6. Stockholders' Equity
Common Stock

Our certificate of incorporation, as amended and restated, authorizes us to issue 75,000,000 shares of Class B common stock, at \$0.0001 par value per share, and 750,000,000 shares of Class A common stock, at \$0.0001 par value per share. The rights of the holders of Class A and Class B common stock are identical, except with respect to voting and conversion. Each holder of Class B common stock is entitled to ten votes per share and each holder of Class A common stock is entitled to one vote per share. Shares of Class B common stock may be converted into Class A common stock at any time at the option of the stockholder, and are automatically converted upon sale or transfer, to Class A common stock, subject to certain limited exceptions. At its discretion, the board of directors may declare dividends on shares of common stock, subject to the rights of our preferred stockholders, if

any. Upon liquidation or dissolution, holders of common stock will receive distributions only after preferred stock preferences have been satisfied.

Preferred Stock

Our certificate of incorporation, as amended and restated, authorizes us to issue 10,000,000 shares of preferred stock at \$0.0001 par value per share. Our board of directors has the authority to provide for the issuance of all the shares in one or more series. At its discretion, our board of directors may designate the voting rights and preferences of the preferred stock. As of December 31, 2018 and 2017, no shares of preferred stock were outstanding.

Stock Repurchase Program

On November 1, 2016, we announced that our board of directors approved a stock repurchase program, under which we were authorized to repurchase up to \$200 million of our outstanding Class A common stock. On April 26, 2018, our board of directors authorized us to repurchase up to an additional \$300 million of our outstanding Class A common stock under our previously announced stock repurchase program. The repurchase program has no expiration date and may be modified, suspended or discontinued at any time. Repurchases under the program may be made from time to time on the open market at prevailing market prices, in privately negotiated transactions, in transactions structured through investment banking institutions or a combination of the foregoing, in compliance with Rule 10b-18 under the Securities Exchange Act of 1934, as amended.

During the year ended December 31, 2018, we repurchased 1,220,596 shares of our outstanding Class A common stock at an average price of \$98.33 per share for \$120.0 million. During the year ended December 31, 2017, we repurchased 1,264,428 shares of our outstanding Class A common stock at an average price of \$63.26 per share for \$80.0 million. All repurchases were made in open market transactions using cash on hand and all of the shares repurchased were retired. As of December 31, 2018, we were authorized to repurchase a remaining \$280.0 million of our Class A common stock under our repurchase program.

Note 7. Business Combinations

Empirical Systems, Inc.

On June 7, 2018, we acquired all issued and outstanding stock of Empirical Systems, Inc., a privately-held Delaware corporation, for \$11.0 million in cash. Empirical Systems, Inc. was a startup specializing in automated statistical analysis. As a result of this acquisition, we acquired all of the assets and assumed all of the liabilities of Empirical Systems, Inc., and we accounted for this transaction as a business combination. Pro forma results of operations for this acquisition have not been presented as the effects were not material to our financial results. The following table summarizes the purchase price allocation based on the estimated fair value of the net assets acquired:

	June 7, 2018
	(in thousands)
Cash	\$ 53
Technology asset	3,500
Goodwill	7,447
Net assets acquired	\$ 11,000

The technology asset acquired in this business combination is being amortized on the straight-line method over a period of five years. Goodwill generated from this business combination is primarily attributable to expected synergies between the technology asset acquired and our key products. None of the goodwill recognized with this transaction is expected to be deductible for U.S. income tax purposes.

Certain employees hired in conjunction with the acquisition of Empirical Systems, Inc. received RSUs that are subject to service conditions as well as the completion of certain technology milestones. We account for these awards as a post-business combination expense.

Additional information existing as of the acquisition date but unknown to us may become known at a later time, such as matters related to income taxes or other contingencies. In accordance with GAAP, if this occurs during the 12 month period subsequent to the acquisition date, we may update the amounts and allocations recorded as of the acquisition date, which are presented in the table above.

Argo Technologies Corp.

On August 1, 2017, we acquired all issued and outstanding stock of Argo Technologies Corp., a privately-held Delaware corporation doing business as ClearGraph ("ClearGraph"), for \$24.1 million in cash. ClearGraph was a startup that enables smart data discovery and data analysis through natural language query technology. As a result of this acquisition, we acquired all of the assets and assumed all of the liabilities of ClearGraph, and we accounted for this transaction as a business combination. Pro forma results of operations for this acquisition were not presented as the effects were not material to our financial results. The following table summarizes the purchase price allocation based on the estimated fair value of the net assets acquired:

	August 1, 2017
	(in thousands)
Cash	\$ 161
Technology asset	5,000
Goodwill	19,552
Other liabilities, net	(586)
Net assets acquired	\$ 24,127

The technology asset acquired in this business combination is being amortized on the straight-line method over a period of five years. Goodwill generated from this business combination was primarily attributable to expected synergies between the technology asset acquired and our key products. None of the goodwill recognized with this transaction is expected to be deductible for U.S. income tax purposes.

Hyper

On March 1, 2016, we acquired Hyper, a high-performance main-memory database system, for \$16.4 million in cash. Through this acquisition we acquired new technology, capable of enhancing our key products, and additional engineering talent. We accounted for this transaction as a business combination, and allocated \$1.8 million to the acquired technology intangible asset. The remaining purchase price was recorded to goodwill, which was primarily attributable to the synergies between Hyper and our key products. No other assets or liabilities were identified as part of the acquisition. A portion of the goodwill balance associated with this transaction is deductible for U.S. income tax purposes.

Pro forma results of operations for this acquisition were not presented as the effects were not material to our consolidated financial results.

Note 8. Revenue

We adopted the new revenue recognition accounting standard, ASC 606, effective January 1, 2018 on a modified retrospective basis and applied the new standard only to contracts that were not completed contracts prior to January 1, 2018. See Note 2 for a description of our ASC 606 revenue recognition accounting policy. Financial results for 2018 are presented in compliance with the new revenue recognition standard. Historical financial results for reporting periods prior to 2018 have not been retroactively restated and are presented in conformity with amounts previously disclosed under ASC 605. This note includes additional information regarding the impacts from the adoption of the new revenue recognition standard on our financial results for 2018. This includes the presentation of financial results for 2018 under ASC 605 for comparison to the prior year. Our revenue recognition accounting policy for ASC 605 is included in Note 2.

Consolidated Balance Sheets - Reconciliation of the Impacts from the Adoption of the New Revenue Recognition Standard

The following schedule summarizes the impacts from the adoption of the new revenue recognition standard on our consolidated balance sheet:

	December 31, 2018			December 31, 2017
	As Reported (ASC 606)	Impacts from Adoption	Without Adoption (ASC 605)	As Reported (ASC 605)
(in thousands)				
Assets				
Current assets				
Cash and cash equivalents	\$ 653,022	\$ —	\$ 653,022	\$ 627,878
Short-term investments	369,355	—	369,355	226,787
Accounts receivable, net	236,063	—	236,063	203,366
Prepaid expenses and other current assets	155,012	(121,418)	33,594	30,514
Income taxes receivable	2,268	97	2,365	673
Total current assets	1,415,720	(121,321)	1,294,399	1,089,218
Long-term investments	26,278	—	26,278	148,364
Property and equipment, net	94,537	—	94,537	106,753
Goodwill	42,530	—	42,530	35,083
Deferred income taxes	4,733	3,170	7,903	5,287
Other long-term assets	50,927	(34,871)	16,056	14,090
Total assets	\$ 1,634,725	\$ (153,022)	\$ 1,481,703	\$ 1,398,795
Liabilities and stockholders' equity				
Current liabilities				
Accounts payable	\$ 6,652	\$ —	\$ 6,652	\$ 4,448
Accrued compensation and employee-related benefits	105,155	—	105,155	96,390
Other accrued liabilities	55,896	—	55,896	37,722
Income taxes payable	2,982	(46)	2,936	4,743
Deferred revenue	377,892	199,210	577,102	419,426
Total current liabilities	548,577	199,164	747,741	562,729
Deferred revenue	16,306	12,232	28,538	28,058
Other long-term liabilities	56,257	(1,718)	54,539	54,385
Total liabilities	621,140	209,678	830,818	645,172
Stockholders' equity				
Common stock	8	—	8	8
Additional paid-in capital	1,340,628	—	1,340,628	1,168,563
Accumulated other comprehensive loss	(11,458)	1,902	(9,556)	(11,991)
Accumulated deficit	(315,593)	(364,602)	(680,195)	(402,957)
Total stockholders' equity	1,013,585	(362,700)	650,885	753,623
Total liabilities and stockholders' equity	\$ 1,634,725	\$ (153,022)	\$ 1,481,703	\$ 1,398,795

Consolidated Statements of Operations - Reconciliation of the Impacts from the Adoption of the New Revenue Recognition Standard

The following schedule summarizes the impacts from the adoption of the new revenue recognition standard on our consolidated statement of operations:

	Year Ended December 31,				
	2018			2017	2016
	As Reported (ASC 606)	Impacts from Adoption	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands)				
Revenues					
License	\$ 555,581	\$ (57,531)	\$ 498,050	\$ 429,204	\$ 481,659
Maintenance and services	599,771	(114,872)	484,899	447,855	345,284
Total revenues	1,155,352	(172,403)	982,949	877,059	826,943
Cost of revenues					
License	21,407	(484)	20,923	13,534	7,003
Maintenance and services	121,217	514	121,731	100,025	92,087
Total cost of revenues	142,624	30	142,654	113,559	99,090
Gross profit	1,012,728	(172,433)	840,295	763,500	727,853
Operating expenses					
Sales and marketing	593,786	26,768	620,554	517,446	476,506
Research and development	382,886	—	382,886	334,148	302,759
General and administrative	125,805	(119)	125,686	102,871	88,149
Total operating expenses	1,102,477	26,649	1,129,126	954,465	867,414
Operating loss	(89,749)	(199,082)	(288,831)	(190,965)	(139,561)
Other income, net	17,872	(46)	17,826	12,266	2,134
Loss before income tax expense	(71,877)	(199,128)	(271,005)	(178,699)	(137,427)
Income tax expense	5,165	1,068	6,233	6,861	7,022
Net loss	\$ (77,042)	\$ (200,196)	\$ (277,238)	\$ (185,560)	\$ (144,449)

Consolidated Statements of Comprehensive Loss - Reconciliation of the Impacts from the Adoption of the New Revenue Recognition Standard

The following schedule summarizes the impacts from the adoption of the new revenue recognition standard on our consolidated statement of comprehensive loss:

	Year Ended December 31,				
	2018			2017	2016
	As Reported (ASC 606)	Impacts from Adoption	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands)				
Net loss	\$ (77,042)	\$ (200,196)	\$ (277,238)	\$ (185,560)	\$ (144,449)
Other comprehensive income (loss), net of tax:					
Foreign currency translation	(937)	3,585	2,648	(12,920)	950
Net unrealized loss on available-for-sale securities	(213)	—	(213)	(664)	—
Comprehensive loss	<u>\$ (78,192)</u>	<u>\$ (196,611)</u>	<u>\$ (274,803)</u>	<u>\$ (199,144)</u>	<u>\$ (143,499)</u>

Consolidated Statements of Cash Flows - Reconciliation of the Impacts from the Adoption of the New Revenue Recognition Standard

The following schedule summarizes the impacts from the adoption of the new revenue recognition standard on our consolidated statement of cash flows:

	Year Ended December 31,				
	2018			2017	2016
	As Reported (ASC 606)	Impacts from Adoption	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands)				
Operating activities					
Net loss	\$ (77,042)	\$ (200,196)	\$ (277,238)	\$ (185,560)	\$ (144,449)
Adjustments to reconcile net loss to net cash provided by operating activities					
Depreciation and amortization expense	35,787	—	35,787	44,746	43,006
Amortization (accretion) on investments, net	(424)	—	(424)	359	—
Stock-based compensation expense	238,731	—	238,731	210,283	185,712
Deferred income taxes	(2,180)	942	(1,238)	(2,988)	1,219
Changes in operating assets and liabilities					
Accounts receivable, net	(36,519)	—	(36,519)	12,493	(78,197)
Prepaid expenses and other assets	(95,347)	91,351	(3,996)	8,054	(18,987)
Income taxes receivable	(1,675)	(99)	(1,774)	(515)	(56)
Deferred revenue	56,555	108,141	164,696	123,938	116,860
Accounts payable and accrued liabilities	38,396	—	38,396	13,529	71,157
Income taxes payable	(1,586)	(49)	(1,635)	2,528	997
Net cash provided by operating activities	154,696	90	154,786	226,867	177,262
Investing activities					
Purchases of property and equipment	(20,446)	—	(20,446)	(61,823)	(60,732)
Business combinations, net of cash acquired	(10,947)	—	(10,947)	(23,966)	(16,399)
Purchases of investments	(285,277)	—	(285,277)	(421,719)	—
Maturities of investments	262,835	—	262,835	30,630	—
Sales of investments	2,171	—	2,171	14,916	—
Net cash used in investing activities	(51,664)	—	(51,664)	(461,962)	(77,131)
Financing activities					
Proceeds from issuance of common stock	44,710	—	44,710	38,856	34,356
Repurchases of common stock	(120,024)	—	(120,024)	(79,991)	(20,009)
Net cash provided by (used in) financing activities	(75,314)	—	(75,314)	(41,135)	14,347
Effect of exchange rate changes on cash and cash equivalents	(2,574)	(90)	(2,664)	(4,609)	(1,661)
Net increase (decrease) in cash and cash equivalents	25,144	—	25,144	(280,839)	112,817
Cash and cash equivalents					
Beginning of year	627,878	—	627,878	908,717	795,900
End of year	\$ 653,022	\$ —	\$ 653,022	\$ 627,878	\$ 908,717

Disclosures Related to our Contracts with Customers

Timing may differ between the satisfaction of performance obligations and the invoicing and collection of amounts related to our contracts with customers. We record assets for amounts related to performance obligations that are satisfied but not yet billed and/or collected. These assets are recorded as contract assets rather than receivables when receipt of the consideration is conditional on something other than the passage of time. Liabilities are recorded for amounts that are collected in advance of the satisfaction of performance obligations. These liabilities are classified as current and non-current deferred revenue.

Contract Assets and Contract Liabilities

The following table presents the activity impacting our contract assets during the year ended December 31, 2018 :

	Contract Assets	
	(in thousands)	
Balance at December 31, 2017	\$	—
Adoption of ASC 606		40,854
Contract assets transferred to receivables		(37,698)
Additions to contract assets		102,437
Balance at December 31, 2018	\$	105,593

Contract assets are included in prepaid expenses and other current assets. There were no material impairments of contract assets during the year ended December 31, 2018 .

The following table presents the activity impacting our deferred revenue balances during the year ended December 31, 2018 :

	Deferred Revenue	
	(in thousands)	
Balance at December 31, 2017	\$	447,484
Adoption of ASC 606		(105,933)
Deferred revenue recognized		(314,765)
Additional amounts deferred		367,412
Balance at December 31, 2018	\$	394,198

Assets Recognized from the Costs to Obtain our Contracts with Customers

We recognize an asset for the incremental costs of obtaining a contract with a customer if we expect the benefit of those costs to be longer than one year. We amortize these deferred costs proportionate with related revenues over the benefit period, currently estimated to be four years.

The following table presents the activity impacting our deferred contract costs during the year ended December 31, 2018 :

	Deferred Contract Costs	
	(in thousands)	
Balance at December 31, 2017	\$	—
Adoption of ASC 606		25,489
Additional contract costs deferred		37,528
Amortization of deferred contract costs		(11,616)
Balance at December 31, 2018	\$	51,401

As of December 31, 2018 , \$16.5 million of our deferred contract costs are expected to be amortized within the next 12 months and therefore are included in prepaid expenses and other current assets. The remaining amount of our deferred contract costs are included in other long-term assets. There were no material

impairments of assets related to deferred contract costs during the year ended December 31, 2018 . There were no assets recognized related to the costs to fulfill contracts during the year ended December 31, 2018 as these costs were not material.

Remaining Performance Obligations

Our contracts with customers include amounts allocated to performance obligations that will be satisfied at a later date. As of December 31, 2018 , amounts allocated to these additional contractual obligations are \$240.1 million , of which we expect to recognize \$191.7 million as revenue over the next 24 months with the remaining amount thereafter. These amounts include additional performance obligations that are not yet recorded in the consolidated balance sheets.

Note 9. Stock-Based Compensation

Our 2004 Plan authorized the granting of options to purchase shares of our Class B common stock, RSUs and other stock-based awards to our employees, consultants, officers and directors. Our 2013 Plan, which is the successor to our 2004 Plan, authorizes the granting of options to purchase shares of our Class A common stock, RSUs and other stock-based awards to our employees, consultants, officers and directors. Options granted under the Plans may be incentive or nonstatutory stock options. Incentive stock options may only be granted to employees. The term of each option is stated in the award agreement, but shall be no more than ten years from the date of grant. The board of directors determines the period over which options and RSUs become vested. Currently, the vesting period for our options and RSUs is typically four years.

Our 2013 ESPP allows eligible employees to purchase shares of our Class A common stock at a discount through payroll deductions of up to 15% of their eligible compensation, subject to plan limitations. The 2013 ESPP currently includes purchase periods approximately six months in duration starting on the first trading date on or after June 1st and December 1st of each year. Participants are able to purchase shares of our common stock at 85% of the lower of its fair market value on (i) the first day of the purchase period or on (ii) the purchase date, which is the last day of the purchase period.

A summary of the option activity during the year ended December 31, 2018 follows:

	Options Outstanding			
	Shares	Weighted Average Exercise Price per Share	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Balances at December 31, 2017	3,017,113	\$ 10.13		
Options exercised	(1,097,730)	9.60		
Balances at December 31, 2018	1,919,383	\$ 10.44	3.12	\$ 210,283
Vested and expected to vest at December 31, 2018	1,919,383	\$ 10.44	3.12	\$ 210,283
Exercisable at December 31, 2018	1,886,570	\$ 9.67	3.04	\$ 208,146

The stock options are exercisable at a price equal to the market value of the underlying shares of common stock on the date of the grant. For options granted prior to the IPO this value was determined by our board of directors. After the IPO, this value was determined by reference to the closing price of our Class A common stock on the New York Stock Exchange on the date of the grant. The total intrinsic value of options exercised during 2018 , 2017 and 2016 was \$92.4 million , \$74.5 million and \$63.3 million , respectively. The intrinsic value is the difference between the fair value of our Class A common stock and the exercise price of each of the respective stock options. The total grant date fair value of options vested during 2018 , 2017 and 2016 was \$0.4 million , \$1.2 million and \$7.8 million , respectively.

A summary of the RSU activity, including RSU awards subject to technology milestones, during the year ended December 31, 2018 follows:

	Number of Shares Underlying Outstanding RSUs	Weighted-Average Grant-Date Fair Value per RSU
Non-Vested outstanding at December 31, 2017	7,178,015	\$ 62.79
RSUs granted	4,374,326	92.25
RSUs vested	(3,526,004)	67.74
RSUs forfeited	(831,883)	68.16
Non-Vested outstanding at December 31, 2018	7,194,454	\$ 77.66

An RSU award entitles the holder to receive shares of our Class A common stock as the award vests, which is generally based on length of service. Our non-vested RSUs do not have nonforfeitable rights to dividends or dividend equivalents. Stock-based compensation expense is recognized using the straight-line method over the requisite service period. We account for forfeitures as they occur. For RSU awards subject to technology milestones, we recognize compensation cost over the estimated requisite service period if we believe it is probable that the associated technology milestone will be met. If our assessment of the probability of the technology milestone being met changes, we recognize the impact of the change in estimate in the period of the change.

The weighted-average grant date fair value of RSUs granted in 2018, 2017 and 2016 was \$92.25, \$60.62 and \$44.61, respectively. The total intrinsic value of RSUs vested during 2018, 2017 and 2016 was \$342.3 million, \$185.7 million and \$92.5 million, respectively.

As of December 31, 2018, total unrecognized compensation expense related to stock options and non-vested RSUs was \$502.4 million, which is expected to be recognized over a weighted-average period of 2.8 years.

The summary of shares available for issuance of equity-based awards (including stock options, RSUs and shares issuable under our 2013 ESPP) during the year ended December 31, 2018 follows:

	Shares Available for Grant	
	2013 Plan	2013 ESPP
Balances at December 31, 2017	7,207,291	3,666,392
Authorized	4,023,117	804,623
Granted	(4,374,326)	(491,471)
Forfeited	831,883	—
Balances at December 31, 2018	7,687,965	3,979,544

Pursuant to the provisions of our 2013 Plan, the number of shares authorized for issuance increases annually on January 1st by the lesser of 5% of the total number of shares of our capital stock outstanding on December 31st of the preceding calendar year or an amount determined by our board of directors. Pursuant to the provisions of our 2013 ESPP, the number of shares authorized for issuance increases annually on January 1st by the lesser of 1% of the total number of shares of our capital stock outstanding on December 31st of the preceding calendar year, 4,000,000 shares of Class A common stock, or an amount determined by our board of directors. There are no shares available for grant under our 2004 plan.

Valuation Assumptions

Stock-based awards granted to our employees, consultants, officers and directors are measured based on the grant date fair value of the awards.

For the years ended December 31, 2018 and 2017, there were no options granted. The weighted average grant date fair value of stock options granted for the year ended December 31, 2016 was \$23.73. For the year ended December 31, 2016, the fair value of options was estimated using the Black-Scholes option pricing model with the following assumptions:

	Year Ended December 31, 2016
Risk-free interest rates	1.2%
Expected term	5.2 years
Expected dividends	None
Expected volatility	48.0%

There were 491,471, 604,177 and 549,327 Class A common stock shares issued under the 2013 ESPP for the years ended December 31, 2018, 2017 and 2016, respectively.

For the years ended December 31, 2018, 2017 and 2016, the fair value of common share purchase rights under the 2013 ESPP was estimated using the Black-Scholes option pricing model with the following assumptions:

	Year Ended December 31,		
	2018	2017	2016
Risk-free interest rates	2.1% - 2.5%	1.1% - 1.5%	0.5% - 0.6%
Expected term	0.5 years	0.5 years	0.5 years
Expected dividends	None	None	None
Expected volatility	28.7% - 44.5%	28.6% - 30.5%	42.0% - 50.1%

The risk-free interest rates are based on the rates for a U.S. Treasury zero-coupon issue with a term that approximates the expected life of the award. The expected term represents the period that our stock-based awards are expected to be outstanding. For awards of stock options, the expected term approximates the expected life of the awards at the date closest to the grant date, determined based on actual experience adjusted for expected employee exercise behavior. For shares expected to be issued under our 2013 ESPP, the expected term is based on the duration of each purchase period, which is approximately six months. We have not paid and do not expect to pay dividends. We estimate expected future volatility based on the annualized daily historical volatility of our stock price.

Note 10. Income Taxes

The components of our loss before income tax expense consisted of the following:

	Year Ended December 31,		
	2018	2017	2016
	As Reported (ASC 606)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands)		
United States	\$ (44,488)	\$ (134,723)	\$ (100,725)
International	(27,389)	(43,976)	(36,702)
Total	\$ (71,877)	\$ (178,699)	\$ (137,427)

Income tax expense (benefit) consisted of the following:

	Year Ended December 31,		
	2018	2017	2016
	As Reported (ASC 606)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands)		
United States	\$ (108)	\$ (592)	\$ 2,147
International	5,273	7,453	4,875
Total	\$ 5,165	\$ 6,861	\$ 7,022

The provision for income taxes consisted of the following:

	Year Ended December 31,		
	2018	2017	2016
	As Reported (ASC 606)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands)		
Current:			
Federal	\$ —	\$ —	\$ 1,447
State	197	233	402
Foreign	9,425	10,704	5,230
Total current income tax expense	9,622	10,937	7,079
Deferred:			
Federal	(241)	(892)	258
State	(64)	67	40
Foreign	(4,152)	(3,251)	(355)
Total deferred income tax benefit	(4,457)	(4,076)	(57)
Total income tax expense	\$ 5,165	\$ 6,861	\$ 7,022

A reconciliation of the U.S. federal statutory income tax provision (benefit) (computed by multiplying the U.S. federal statutory rate of 21% in 2018 and 35% in both 2017 and 2016 by loss before income tax expense) to the effective income tax expense for each year follows:

	Year Ended December 31,		
	2018	2017	2016
	As Reported (ASC 606)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands)		
Income tax benefit at statutory rate	\$ (15,094)	\$ (62,545)	\$ (48,098)
State taxes, net of federal tax benefit	(1,835)	(4,714)	(3,466)
Impact of foreign income taxes	12,239	23,232	14,566
Impact of Tax Cuts and Jobs Act of 2017	3,367	87,584	—
Research and development and other tax credits	(17,933)	(12,563)	(8,462)
Stock-based compensation	(35,858)	(13,466)	5,098
Non-deductible meals and entertainment expenses	2,313	1,182	1,212
Impact of valuation allowance	57,284	(13,598)	46,174
Other, net	682	1,749	(2)
Total income tax expense	\$ 5,165	\$ 6,861	\$ 7,022

Our effective tax rate differs from the U.S. federal statutory rate primarily due to the impact of the valuation allowance on our U.S. federal and state deferred income tax assets and losses in jurisdictions where a tax benefit is

not available. Our effective tax rates in 2018 and 2017 were also impacted by excess tax benefits from stock-based compensation, which are recognized as an income tax benefit due to our adoption of ASU 2016-09 in 2017.

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (the "Act") was signed with an effective date of January 1, 2018. The Act, which significantly revised U.S. tax law, included many important changes. On the same day, Staff Accounting Bulletin No. 118 ("SAB 118") was issued to assist in addressing uncertainty in applying GAAP to the accounting and reporting of tax reform changes related to the Act. We considered these changes, including all available guidance, in determining our income tax provision for the year ended December 31, 2017. As permitted by SAB 118, we have subsequently finalized our accounting analysis based on the guidance, interpretations and data available as of December 31, 2018 and recorded the adjustments in the fourth quarter of 2018.

On January 22, 2018, the FASB released guidance on the accounting for tax on the global intangible low-taxed income ("GILTI") provisions of the Act. The GILTI provisions impose a tax on foreign income in excess of a deemed return on tangible assets of foreign corporations. The Company elects to recognize any potential GILTI as an expense in the period the tax is incurred.

The tax effects of temporary differences and carryforwards that gave rise to deferred income tax assets and liabilities consisted of the following:

	December 31,	
	2018	2017
	As Reported (ASC 606)	As Reported (ASC 605)
	(in thousands)	
Deferred income tax assets:		
Net operating loss carryforwards	\$ 154,409	\$ 133,187
Tax credit carryforwards	73,020	59,343
Stock-based compensation	12,612	15,512
Accrued compensation	13,803	11,487
Deferred revenue	4,120	5,334
Deferred rent	12,065	12,483
Depreciation and amortization	34,350	966
Other	1,766	1,149
Total deferred income tax assets	306,145	239,461
Deferred income tax liabilities:		
Prepaid assets	3,011	4,177
Deferred commissions	12,676	—
Total deferred income tax liabilities	15,687	4,177
Net deferred income tax assets before valuation allowance	290,458	235,284
Less: valuation allowance	(287,935)	(230,545)
Net deferred income tax assets	\$ 2,523	\$ 4,739
Reported as:		
Deferred income taxes	4,733	5,287
Other long-term liabilities	(2,210)	(548)
Net deferred income tax assets	\$ 2,523	\$ 4,739

We determine our deferred income tax assets and liabilities based on differences between the financial reporting and tax basis of assets and liabilities using the enacted tax rates and laws that will be in effect when we expect the differences to reverse.

We regularly assess the need for a valuation allowance against our deferred income tax assets by considering both positive and negative evidence related to whether it is more likely than not that our deferred income tax assets will be realized. A valuation allowance is recorded when it is more likely than not that all or some portion of the deferred income tax assets will not be realized. In evaluating our ability to recover our deferred income tax assets within the jurisdiction from which they arise, we consider all available positive and negative

evidence, including scheduled reversals of deferred income tax liabilities, projected future taxable income, tax-planning strategies and results of recent operations.

In 2015, we established a valuation allowance of \$46.7 million for our U.S. federal and state deferred income tax assets, in part due to our three-year cumulative GAAP net loss adjusted for permanent tax differences, which is a significant piece of negative evidence for recording the valuation allowance. Through the year ended December 31, 2017, we increased the valuation allowance to \$230.5 million. In 2018, we determined our U.S. federal and state deferred income tax assets continue to be currently not more likely than not to be realized; therefore, we increased the valuation allowance to \$287.9 million as of December 31, 2018. The increase in the valuation allowance during 2018 was primarily attributable to the current year change in U.S. federal and state deferred income tax assets.

We have gross net operating loss carryforwards totaling \$999.7 million, R&D tax credit carryforwards of \$93.3 million and Federal foreign tax credits of \$4.6 million. If not utilized, the R&D tax credit carryforwards and net operating loss carryforwards will begin to expire in 2034. Utilization of our net operating loss and tax credit carryforwards may be subject to limitations upon certain ownership changes as provided by the Internal Revenue Code and similar state provisions.

We are subject to income taxes in the U.S. and in numerous foreign jurisdictions. The statute of limitations for adjustments to our historic tax obligations will vary from jurisdiction to jurisdiction. Furthermore, net operating loss and tax credit carryforwards may be subject to adjustment after the expiration of the statute of limitations for the year such net operating losses and tax credits originated. In general, the tax years for U.S. federal and state income tax purposes open for examination are for 2013 and forward due to our net operating loss carryforwards.

Income tax expense includes both U.S. and international income taxes. Except as required under U.S. tax law, we do not provide for U.S. income taxes on our undistributed earnings of foreign subsidiaries that have not been previously taxed because we intend to invest such undistributed earnings indefinitely outside of the U.S. As of December 31, 2018, cash held by foreign subsidiaries was \$35.9 million.

We have reserves for taxes to address potential exposures involving tax positions that we believe could be challenged by taxing authorities even though we believe the positions we have taken are appropriate. We believe our tax reserves are adequate to cover potential liabilities. We review the tax reserves as circumstances warrant and adjust the reserves as events occur that affect our potential liability for additional taxes. It is often difficult to predict the final outcome or timing of resolution of any particular tax matter. Various events, some of which cannot be predicted, such as clarification of tax law by administrative or judicial means, may occur and would require us to increase or decrease our reserves and effective income tax rate.

Total gross unrecognized tax benefits were \$28.1 million, \$19.9 million and \$12.9 million as of December 31, 2018, 2017 and 2016, respectively. Of these amounts, the portion recorded as liabilities pertaining to uncertain tax positions was \$3.1 million, \$1.4 million and \$0.7 million as of December 31, 2018, 2017 and 2016, respectively. Our increase in unrecognized tax benefits relates primarily to the R&D tax credits generated in the current year, which are recorded net of the corresponding deferred tax asset.

These amounts represent the gross amount of exposure in individual jurisdictions and do not reflect any additional benefits expected to be realized if such positions were not sustained. To the extent that any uncertain tax positions are resolved in our favor, it may have a positive impact on our effective income tax rate. We do not expect any material decrease on our unrecognized tax position within the next twelve months. The following table shows the gross changes in our unrecognized tax position.

	Year Ended December 31,		
	2018	2017	2016
	As Reported (ASC 606)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands)		
Balance, beginning of year	\$ 19,881	\$ 12,909	\$ 10,781
Gross increases to tax positions related to prior periods	1,174	1,289	28
Gross decreases to tax positions related to prior periods	(291)	—	—
Gross increases related to current tax positions	7,377	5,683	2,100
Balance, end of year	<u>\$ 28,141</u>	<u>\$ 19,881</u>	<u>\$ 12,909</u>

Interest or penalties, if incurred, would be recognized as a component of income tax expense. Penalties and interest recognized were not material for the years ended December 31, 2018, 2017 and 2016.

On July 27, 2015, the U.S. Tax Court issued an opinion related to litigation in *Altera Corp v. Commissioner*. This litigation relates to the treatment of stock-based compensation expense in an intercompany cost sharing arrangement with one of Altera's foreign subsidiaries. In its opinion, the U.S. Tax Court invalidated the portion of the Treasury regulations requiring the inclusion of stock-based compensation expense in such intercompany cost-sharing arrangements. On February 19, 2016, the IRS appealed the U.S. Tax Court's decision. On July 24, 2018, the Ninth Circuit Court of Appeals issued a decision that was subsequently withdrawn and assigned to a new panel to consider the appeal. As the final resolution of this litigation remains uncertain, we have not recorded potentially favorable benefits related to the current or prior periods. We will continue to monitor developments related to this case and the potential impact of those developments on our current and future financial statements.

Note 11. Commitments and Contingencies

Operating Lease Commitments and Expected Sublease Receipts

We conduct our operations in facilities leased for non-cancellable periods that expire at various dates through 2030. Many of our lease agreements contain extension options for additional periods. We recognize rent expense on the straight-line method over the defined lease periods. Total rent expense under operating leases, net of sublease income, was approximately \$34.7 million, \$41.1 million and \$44.1 million for the years ended December 31, 2018, 2017 and 2016, respectively. The following table presents our non-cancellable future minimum lease payments, net of future sublease receipts expected to be received under non-cancellable subleases, as of December 31, 2018:

Year Ending December 31,	Operating Lease Commitments		Expected Sublease Receipts		Net
			(in thousands)		
2019	\$	44,569	\$	(9,912)	\$ 34,657
2020		45,835		(8,125)	37,710
2021		46,562		(1,208)	45,354
2022		45,858		(625)	45,233
2023		46,789		(128)	46,661
Thereafter		136,829		—	136,829
Total	\$	366,442	\$	(19,998)	\$ 346,444

Contractual Commitments

Our contractual commitments are associated with agreements that are enforceable and legally binding and that specify all significant terms, including fixed or minimum services to be used, fixed, minimum or variable price provisions and the approximate timing of the transaction. Obligations under contracts that we can cancel without a significant penalty are not included. The following table presents our non-lease contractual commitments as of December 31, 2018:

		Payments Due by Year						
Total		2019	2020	2021	2022	2023	Thereafter	
		(in thousands)						
Contractual commitments	\$ 42,631	\$ 24,295	\$ 10,947	\$ 7,193	\$ 168	\$ 28	\$ —	

Legal Proceedings

We are subject to certain routine legal proceedings, as well as demands and claims that arise in the normal course of our business. We make a provision for a liability relating to legal matters when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. These provisions are reviewed and adjusted to reflect the impacts of negotiations, estimated settlements, legal rulings, advice of legal counsel and other information and events pertaining to a particular matter.

We are not aware of any pending legal proceedings that we believe, individually or in the aggregate, would be expected to have a material adverse effect on our business, operating results or financial condition. We may, in

the future, be party to litigation arising in the ordinary course of business, including claims that we allegedly infringe upon third party intellectual property rights. Such claims, even if not meritorious, could result in the expenditure of significant financial and management resources.

Note 12. Retirement Plan

We offer a salary deferral 401(k) plan for our U.S. employees. The plan allows employees to contribute a percentage of their pretax earnings annually, subject to limitations imposed by the IRS. The plan also allows us to make matching contributions, subject to certain limitations. We contributed \$7.5 million, \$3.7 million and \$3.6 million to the 401(k) plan for the years ended December 31, 2018, 2017 and 2016, respectively.

Note 13. Segments and Information about Revenues by Geographic Area

The following table presents our revenues by geographic region of end users who purchased products or services for the periods presented below:

	Year Ended December 31,			
	2018		2017	2016
	As Reported (ASC 606)	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands)			
United States and Canada	\$ 797,874	\$ 683,073	\$ 605,773	\$ 586,494
International	357,478	299,876	271,286	240,449
Total revenues	<u>\$ 1,155,352</u>	<u>\$ 982,949</u>	<u>\$ 877,059</u>	<u>\$ 826,943</u>

For the years ended December 31, 2018, 2017 and 2016, no individual country other than the United States represented 10% or more of our total revenues. Substantially all of our long-lived assets were located in the United States as of December 31, 2018 and 2017.

Note 14. Net Loss Per Share

We calculate basic net income (loss) per share by dividing our net income (loss) for the period by the weighted average number of shares of common stock outstanding during the period. Diluted net income (loss) per share is computed giving effect to all potential common shares that were dilutive and outstanding during the period. For the years ended December 31, 2018, 2017 and 2016, basic net loss per share is the same as diluted net loss per share as the inclusion of all potentially dilutive common shares outstanding is anti-dilutive when we are in a net loss position.

The following table presents the computation of basic and diluted net loss per share and includes additional information regarding the impacts from the adoption of the new revenue recognition standard for the year ended December 31, 2018:

	Year Ended December 31,				
	2018			2017	2016
	As Reported (ASC 606)	Impacts from Adoption	Without Adoption (ASC 605)	As Reported (ASC 605)	As Reported (ASC 605)
	(in thousands, except per share data)				
Net loss per share - basic and diluted					
Net loss	\$ (77,042)	\$ (200,196)	\$ (277,238)	\$ (185,560)	\$ (144,449)
Weighted average shares outstanding used to compute basic and diluted net loss per share	82,632		82,632	78,869	75,162
Net loss per share - basic and diluted	<u>\$ (0.93)</u>		<u>\$ (3.36)</u>	<u>\$ (2.35)</u>	<u>\$ (1.92)</u>

The following shares were excluded from the computation of diluted net loss per share for the periods presented as their effect would have been antidilutive:

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Shares subject to outstanding common stock awards	9,237	10,488	12,017

Note 15. Quarterly Financial Information (Unaudited)

The following table contains selected unaudited financial data for each quarter of 2018 and 2017. The unaudited information should be read in conjunction with our financial statements and these notes to the consolidated financial statements. We believe that the following unaudited information reflects all normal recurring adjustments necessary for a fair presentation of the information for the periods presented. The operating results for any quarter are not necessarily indicative of results for any future period.

	Three Months Ended															
	Dec 31, 2018	Sept 30, 2018	June 30, 2018	March 31, 2018	Dec 31, 2018	Sept 30, 2018	June 30, 2018	March 31, 2018								
As Reported (ASC 606)				Without Adoption (ASC 605)												
(in thousands, except per share amounts)																
Total revenues	\$	336,276	\$	290,580	\$	282,289	\$	246,207	\$	275,748	\$	239,591	\$	243,566	\$	224,044
Gross profit		296,081		255,801		247,064		213,782		235,574		204,785		208,326		191,610
Net income (loss)		2,833		(21,337)		(12,066)		(46,472)		(67,348)		(71,297)		(59,567)		(79,026)
Net income (loss) per share:																
Basic	\$	0.03	\$	(0.26)	\$	(0.15)	\$	(0.57)	\$	(0.80)	\$	(0.86)	\$	(0.72)	\$	(0.98)
Diluted	\$	0.03	\$	(0.26)	\$	(0.15)	\$	(0.57)	\$	(0.80)	\$	(0.86)	\$	(0.72)	\$	(0.98)

	Three Months Ended			
	Dec 31, 2017	Sept 30, 2017	June 30, 2017	March 31, 2017
	As Reported (ASC 605)			
	(in thousands, except per share amounts)			
Total revenues	\$ 249,356	\$ 214,917	\$ 212,880	\$ 199,906
Gross profit	219,046	184,988	186,215	173,251
Net loss	(41,838)	(46,553)	(42,522)	(54,647)
Net loss per share:				
Basic and diluted	\$ (0.52)	\$ (0.59)	\$ (0.54)	\$ (0.71)

Note 16. Subsequent Events

On January 3, 2019, we donated 209,384 shares of our Class A common stock to Tableau Foundation, a donor-advised charitable fund. We will record a charge of \$24.2 million to general and administrative expense in the first quarter of 2019 based on the value of our stock on the date of contribution.

In the first quarter of 2019, we entered into additional lease agreements for office facilities resulting in \$21.7 million of additional future minimum lease payments payable from 2019 through 2030.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our principal executive officer and principal financial officer, our management conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, as of December 31, 2018, the end of the period covered by this report.

In designing and evaluating our disclosure controls and procedures, management recognizes that any disclosure controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

Based on management's evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures are designed to, and are effective to, provide assurance at a reasonable level that the information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosures.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Our management conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2018 based on the criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Based on the results of its evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2018. The effectiveness of our internal control over financial reporting as of December 31, 2018 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in its report which is included in Item 8 of the Annual Report on Form 10-K.

Changes in Internal Control Over Financial Reporting

There was no change in our internal control over financial reporting identified in connection with the evaluation required by Rules 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the three months ended December 31, 2018 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information required by this Item is incorporated herein by reference to the sections entitled "Directors and Executive Officers," "Section 16(a) Beneficial Ownership Reporting Compliance," "Corporate Governance and Board Matters," "Director Selection and Nominations" and "Board Meetings and Committees" in our definitive proxy statement with respect to our 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

ITEM 11. EXECUTIVE COMPENSATION

Information required by this Item is incorporated herein by reference to the sections entitled "Compensation Tables," "Compensation Discussion and Analysis," "Director Compensation for 2018" and "Board Meetings and Committees" in our definitive proxy statement with respect to our 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information required by this Item is incorporated herein by reference to the sections entitled "Security Ownership of Certain Beneficial Owners and Management," and "Equity Compensation Plan Information" in our definitive proxy statement with respect to our 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

Information required by this Item is incorporated herein by reference to the sections entitled "Director Independence and Related Person Transactions" and "Board Meetings and Committees" in our definitive proxy statement with respect to our 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information required by this Item is incorporated herein by reference to the sections entitled "Audit and Non-Audit Fees" and "Proposal 3 - Ratification of Independent Registered Public Accounting Firm for 2019 Fiscal Year" in our definitive proxy statement with respect to our 2019 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this Annual Report on Form 10-K:

See Index to Consolidated Financial Statements in Item 8 of this Annual Report on Form 10-K. No financial statement schedules are provided because the information called for is not required or is shown in the consolidated financial statements or related notes.

(b) Exhibits. The following exhibits are included herein or incorporated by reference:

Exhibit No.	Description of Exhibit	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
3.1	Amended and Restated Certificate of Incorporation of Tableau Software, Inc.	8-K	001-35925	3.1	5/23/2013	
3.2	Amended and Restated Bylaws of Tableau Software, Inc.	S-1	333-187683	3.4	4/2/2013	
4.1.1	Form of Class A Common Stock Certificate.	S-1/A	333-187683	4.1.1	5/15/2013	
4.1.2	Form of Class B Common Stock Certificate.	S-1/A	333-187683	4.1.2	5/15/2013	
10.1†	Tableau Software, Inc. 2004 Equity Incentive Plan.	S-1	333-187683	10.1	4/2/2013	
10.2†	Forms of Option Agreement and Option Grant Notice under the 2004 Equity Incentive Plan.	S-1	333-187683	10.2	4/2/2013	
10.3†	Tableau Software, Inc. 2013 Equity Incentive Plan, as amended.	8-K	001-35925	10.1	5/13/2016	
10.4†	Forms of Option Agreement and Option Grant Notice under the amended 2013 Equity Incentive Plan.	S-1	333-187683	10.4	4/2/2013	
10.5†	Form of Restricted Stock Unit Award Agreement and Restricted Stock Unit Award Grant Notice under the amended 2013 Equity Incentive Plan.	10-Q	001-35925	10.1	8/9/2013	
10.6†	Form of Performance Restricted Stock Unit Award Agreement and Performance Restricted Stock Unit Award Grant Notice under the amended 2013 Equity Incentive Plan.					X
10.7†	Tableau Software, Inc. 2013 Employee Stock Purchase Plan.	S-1	333-187683	10.5	4/2/2013	
10.8†	Form of Indemnification Agreement made by and between Tableau Software, Inc. and each of its directors and executive officers.	S-1	333-187683	10.6	4/2/2013	
10.9†	Offer Letter between Tableau Software, Inc. and Christian Chabot, dated April 26, 2013.	S-1/A	333-187683	10.7	5/6/2013	
10.10†	Offer Letter between Tableau Software, Inc. and Christopher Stolte, dated April 26, 2013.	S-1/A	333-187683	10.8	5/6/2013	

[Table of Contents](#)

10.11†	Offer Letter between Tableau Software, Inc. and Thomas E. Walker, Jr., dated April 26, 2013.	S-1/A	333-187683	10.9	5/6/2013
10.12†	Offer Letter between Tableau Software, Inc. and Elissa Fink, dated June 13, 2007.	S-1/A	333-187683	10.11	5/6/2013
10.13†	Offer Letter between Tableau Software, Inc. and Keenan Conder, dated December 16, 2011.	S-1/A	333-187683	10.12	5/6/2013
10.14†	Form of Conversion Agreement entered into between Tableau Software, Inc. and each of Christian Chabot, Christopher Stolte and Patrick Hanrahan.	S-1	333-187683	10.13	4/2/2013
10.15†	Employment Agreement between Tableau Software, Inc. and Adam Selipsky dated August 8, 2016.	10-Q	001-35925	10.1	11/4/2016
10.16†	Employment Agreement between Tableau Software, Inc. and Daniel Miller dated January 19, 2017.	10-K	001-35925	10.17	2/23/2017
10.17†	Amended Employment Agreement between Tableau Software, Inc. and Andrew Beers dated February 21, 2017.	10-K	001-35925	10.18	2/23/2017
10.18†	Offer Letter between Tableau Software, Inc. and Mark Nelson, dated April 5, 2018.	10-Q	001-35925	10.1	8/6/2018
10.19†	Amended Offer Letter between Tableau Software, Inc. and Damon Fletcher, dated July 20, 2018.	10-Q	001-35925	10.2	8/6/2018
10.20*	Software License Agreement between the Board of Trustees of the Leland Stanford Junior University and Tableau Software LLC, dated January 14, 2003.	S-1	333-187683	10.14	4/2/2013
10.21	Amendment No. 1 to Software License Agreement between the Board of Trustees of the Leland Stanford Junior University and Tableau Software LLC, dated June 8, 2004.	S-1	333-187683	10.15	4/2/2013
10.22†	Form of Change in Control Severance Agreement.	S-1	333-187683	10.21	4/2/2013
10.23	Office Lease Agreement between NorthEdge Developers LLC and Tableau Software, Inc., dated July 2, 2015.	10-Q	001-35925	10.1	11/9/2015
10.24	First Amendment to Office Lease Agreement between NORTHEDGE DEVELOPERS LLC, and TABLEAU SOFTWARE, INC., dated January 18, 2017.	10-Q	001-35925	10.1	8/9/2017
10.25	Second Amendment to Office Lease Agreement between NORTHEDGE DEVELOPERS LLC, and TABLEAU SOFTWARE, INC., dated June 1, 2017.	10-Q	001-35925	10.2	8/9/2017
21.1	List of subsidiaries.	10-K	001-35925	21.1	2/25/2016

23.1	Consent of PricewaterhouseCoopers LLP, independent registered public accounting firm.	X
24.1	Power of Attorney (included on the signature page hereto).	X
31.1	Certification of Periodic Report by Principal Executive Officer under Section 302 of the Sarbanes-Oxley Act of 2002.	X
31.2	Certification of Periodic Report by Principal Financial Officer under Section 302 of the Sarbanes-Oxley Act of 2002.	X
32.1**	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	X
101.INS	XBRL Instance Document.	
101.SCH	XBRL Taxonomy Schema Linkbase Document.	
101.CAL	XBRL Taxonomy Calculation Linkbase Document.	
101.DEF	XBRL Taxonomy Definition Linkbase Document.	
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	
101.PRE	XBRL Taxonomy Presentation Linkbase Document.	

† Indicates management contract or compensatory plan or arrangement.

* Confidential treatment for portions of this exhibit has been granted by the Securities and Exchange Commission.

** Document has been furnished, is not deemed filed and is not to be incorporated by reference into any of the Registrant's filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, irrespective of any general incorporation language contained in any such filing.

ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Seattle, State of Washington, on this 22nd day of February, 2019.

TABLEAU SOFTWARE, INC.

By: /s/ Adam Selipsky

Adam Selipsky
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Adam Selipsky, Damon Fletcher and Keenan Conder, or each of them, as his true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him and in his name, place or stead, in any and all capacities, to sign any amendments to this report and to file the same, with exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that either of said attorneys-in-fact, or substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Annual Report on Form 10-K has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
_____ /s/ Adam Selipsky Adam Selipsky	President, Chief Executive Officer and Director (principal executive officer)	February 22, 2019
_____ /s/ Damon Fletcher Damon Fletcher	Chief Financial Officer (principal financial and accounting officer)	February 22, 2019
_____ /s/ Christian Chabot Christian Chabot	Co-founder and Chairman of the Board	February 21, 2019
_____ /s/ Patrick Hanrahan Patrick Hanrahan	Chief Scientist, Co-founder and Director	February 21, 2019
_____ /s/ Christopher Stolte Christopher Stolte	Co-founder and Director	February 21, 2019
_____ /s/ Billy Bosworth Billy Bosworth	Director	February 21, 2019
_____ /s/ Brooke Seawell Brooke Seawell	Director	February 21, 2019
_____ /s/ Elliott Jurgensen, Jr. Elliott Jurgensen, Jr.	Director	February 21, 2019
_____ /s/ John McAdam John McAdam	Director	February 21, 2019
_____ /s/ Hilarie Koplow-McAdams Hilarie Koplow-McAdams	Director	February 21, 2019
_____ /s/ Gerri Martin-Flickinger Gerri Martin-Flickinger	Director	February 21, 2019



**TABLEAU SOFTWARE, INC.
PERFORMANCE RESTRICTED STOCK UNIT GRANT NOTICE
(2013 EQUITY INCENTIVE PLAN)**

Tableau Software, Inc. (the “**Company**”), pursuant to its 2013 Equity Incentive Plan (the “**Plan**”), hereby awards to Participant the Performance Restricted Stock Units (“**PRSUs**”) in respect of the number of shares of Common Stock set forth below (the “**Award**”). The Award is subject to all of the terms and conditions as set forth in this Performance Restricted Stock Unit Grant Notice, the Performance Restricted Stock Unit Award Agreement, and the Plan, both of which are incorporated herein in their entirety (collectively referred to as the “**Award Documents**”). Capitalized terms not otherwise defined herein will have the meanings set forth in the Plan, the Performance Restricted Stock Unit Award Agreement or the Actual Award Determination Criteria attached hereto as Appendix A (the “**Criteria**”). In the event of any conflict between the terms in this notice and the Plan, the terms of the Plan will control.

Participant: []
Date of Grant: []
Target Number of PRSUs: []

Determination of Actual Award: Determination of the Actual Award will be made by the Committee in accordance with the Criteria. On the Actual Award Determination Date the Company will credit the Participant with an Actual Award representing the number of PRSUs that may vest as provided below. The Actual Award may be equal to all or a portion (including none) of the Maximum Award, as determined by the Committee in accordance with the Criteria.

Vesting Schedule: Only those PRSUs which are subject to the Actual Award may vest, with such vesting as follows and so long as participant remains in continuous service with the company:

[INSERT PRSU VESTING SCHEDULE, TO COMMENCE VESTING ON THE FIRST PERMITTED TRADING DATE (AS DEFINED BELOW)]

Notwithstanding the foregoing, as provided in and subject to Participant’s offer letter or Change in Control Severance Agreement, as applicable, upon a Covered Termination (as defined in the Company’s form of Change of Control Agreement), 100% of the unvested portion of Participant’s then outstanding Equity Awards will immediately vest **except that, with regard to any unvested but outstanding PRSUs, the number of shares that will immediately vest upon a Covered Termination will equal the greater of that number of shares that would vest (i) at target or (ii) at actual achievement as of the date of the Covered Termination**.

“**Permitted Trading Date**” is a date during an open “window period” applicable to Participant, as determined by the Company in accordance with its policy permitting Participant to sell shares only during certain “window” periods as in effect from time to time and on which same date the Participant is otherwise permitted to sell shares of Common Stock on the open market.

Issuance Schedule: One share of Common Stock will be issued for each vested PRSU in accordance with the issuance schedule set forth in Section 6 of the Performance Restricted Stock Unit Award Agreement.

Additional Terms/Acknowledgements: Participant acknowledges receipt of, and understands and agrees to the Award Documents. Participant further acknowledges that as of the Date of Grant, the Award Documents set forth the entire understanding between Participant and the Company regarding this Award and supersede all prior oral and written agreements, promises and/or representations on that subject with the exception of (i) equity awards

previously granted and delivered to Participant, (ii) any compensation recovery policy that is adopted by the Company or is otherwise required by applicable law and (iii) any written employment or severance arrangement that would provide for vesting acceleration of this Award upon the terms and conditions set forth therein.

By clicking “Accept,” Participant acknowledges having received and read the Award Documents and agrees to all of the terms and conditions set forth in these documents.

Furthermore, by clicking “Accept,” Participant consents to receive grant documents for future awards, if any, by electronic delivery and to participate in the Plan through an on-line or electronic system established and maintained by the Company or a third party designated by the Company.

Notwithstanding the above, if Participant has not actively accepted the Award prior to the First Vesting Date, and the Award has not been forfeited prior to such date, Participant is deemed to have accepted the Award on such First Vesting Date, subject to all of the terms and conditions of the Award Documents.

TABLEAU SOFTWARE, INC.

APPENDIX A
ACTUAL AWARD DETERMINATION CRITERIA

Determination of the Actual Award will be made by the Committee in accordance with the criteria specified on this Appendix A.

Definitions: For purposes of the Award the following terms have the following meanings:

[INSERT DEFINITIONS]

Determination of Actual Award : The Actual Award Determination Date will occur within the [_____] day period following the expiration of the Performance Period. Determination of the Target Number of PRSUs that will become subject to the Actual Award will be made by the Committee as provided in the following chart:

[INSERT CHART AND ADDITIONAL DETAILS, IF ANY]

TABLEAU SOFTWARE, INC.
PERFORMANCE RESTRICTED STOCK UNIT AWARD AGREEMENT
(2013 EQUITY INCENTIVE PLAN)

Pursuant to the Performance Restricted Stock Unit Grant Notice (the “**Grant Notice**”) and this Performance Restricted Stock Unit Award Agreement (the “**Agreement**”) and in consideration of your services, Tableau Software, Inc. (the “**Company**”) has awarded you the Performance Restricted Stock Units (“**PRSUs**”) in respect of the number of shares of Common Stock set forth in the Grant Notice (the “**Award**”) under its 2013 Equity Incentive Plan (the “**Plan**”). The Award is granted to you effective as of the Date of Grant set forth in the Grant Notice. Defined terms not explicitly defined in this Agreement will have the same meanings given to them in the Plan. In the event of any conflict between the terms in this Agreement and the Plan, the terms of the Plan will control. The details of the Award, in addition to those set forth in the Grant Notice and the Plan, are as follows.

1. GRANT OF THE AWARD. The Award represents the right to be issued on a future date the number of shares of Common Stock equal to the number of PRSUs subject to the Actual Award which vest upon the satisfaction of the terms set forth in this Agreement, the Grant Notice and the Criteria. Except as otherwise provided herein, you will not be required to make any payment to the Company with respect to your receipt of the Award, the vesting of the PRSUs or the delivery of the underlying Common Stock in settlement of the PRSUs.

2. VESTING. Subject to the limitations contained herein, the PRSUs subject to the Actual Award will vest, if at all, in accordance with the vesting schedule provided in the Grant Notice, provided that vesting will cease upon the termination of your Continuous Service. Any PRSUs not determined to be subject to the Actual Award on the Actual Award Determination Date will automatically be forfeited on such date at no cost to the Company and you will have no further right, title or interest in or to any underlying shares of Common Stock. Upon such termination of your Continuous Service, the PRSUs that were not vested on the date of such termination will be forfeited at no cost to the Company and you will have no further right, title or interest in or to any underlying shares of Common Stock.

3. NUMBER OF SHARES.

(a) The number of PRSUs subject to the Award may be adjusted from time to time for Capitalization Adjustments, as provided in the Plan.

(b) Any shares, cash or other property that becomes subject to the Award pursuant to this Section 3 and Section 7, if any, will be subject, in a manner determined by the Board, to the same forfeiture restrictions, restrictions on transferability, and time and manner of delivery as applicable to the other PRSUs covered by the Award.

(c) Notwithstanding the provisions of this Section 3, no fractional shares or rights for fractional shares of Common Stock will be created pursuant to this Section 3. The Board will, in its discretion, determine an equivalent benefit for any fractional shares or fractional shares that might be created by the adjustments referred to in this Section 3.

4. SECURITIES LAW AND OTHER COMPLIANCE. You may not be issued any shares under the Actual Award unless either (a) the shares are registered under the Securities Act; or (b) the Company has determined that such issuance would be exempt from the registration requirements of the Securities Act. The Award also must comply with other applicable laws and regulations governing the Award, and you will not be issued any shares under the Award if the Company determines that such issuance would not be in material compliance with such laws and regulations.

5. TRANSFER RESTRICTIONS.

(a) **General.** Prior to the time that shares of Common Stock have been delivered to you, you may not transfer, pledge, sell or otherwise dispose of the Award or the shares issuable in respect of the Award, except as expressly provided in this Section 5. For example, you may not use shares that may be issued in respect of the Award as security for a loan. The restrictions on transfer set forth herein will lapse upon delivery to you of shares in respect of the vested portion of the Award.

(b) **Death.** The Award is transferable by will and by the laws of descent and distribution. In addition, upon receiving written permission from the Board or its duly authorized designee, you 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 transactions under the Plan, designate a third party who, in the event of your death, will thereafter be entitled to receive any distribution of Common Stock or other consideration to which you were entitled at the time of your death pursuant to this Agreement. In the absence of such a designation, your executor or administrator of your estate or, as applicable, your legal heirs, will be entitled to receive, on behalf of your estate, such Common Stock or other consideration.

(c) **Certain Trusts.** Upon receiving written permission from the Board or its duly authorized designee, you may transfer the Award to a trust if you are considered to be the sole beneficial owner (determined under Section 671 of the Code and applicable state law) while the Award is held in the trust, provided that you and the trustee enter into transfer and other agreements required by the Company.

(d) **Domestic Relations Orders.** Upon receiving written permission from the Board or its duly authorized designee, and provided that you and the designated transferee enter into transfer and other agreements required by the Company, you may transfer the Award or your right to receive the distribution of Common Stock or other consideration thereunder, pursuant to a domestic relations order that contains the information required by the Company to effectuate the transfer. You are encouraged to discuss the proposed terms of any division of the Award with the Company prior to finalizing the domestic relations order to help ensure the required information is contained within the domestic relations order.

6. DATE OF ISSUANCE.

(a) The Company will deliver to you a number of shares of the Common Stock equal to the number of vested PRSUs subject to the Actual Award, including any additional PRSUs received pursuant to Section 3 above that relate to those vested PRSUs on the applicable vesting date(s). However, if a scheduled delivery date falls on a date that is not a business day, such delivery date will instead fall on the next following business day.

(b) Notwithstanding the foregoing, in the event that (i) you are subject to the Company's policy permitting certain individuals to sell shares only during certain "window" periods, in effect from time to time or you are otherwise prohibited from selling shares of Common Stock in the public market and any shares covered by the Actual Award are scheduled to be delivered on a day (the "**Original Distribution Date**") that does not occur during an open "window period" applicable to you, as determined by the Company in accordance with such policy, or does not occur on a date when you are otherwise permitted to sell shares of Common Stock on the open market, and (ii) the Company elects not to satisfy its obligations for Tax-Related Items (as defined in Section 10) by withholding shares from your distribution, withholding from compensation otherwise payable to you or by permitting you to provide a cash payment, then such shares will not be delivered on such Original Distribution Date and will instead be delivered on the first business day of the next occurring open "window period" applicable to you pursuant to such policy (regardless of whether you are still providing Continuous Service at such time) or the next business day when you are not prohibited from selling shares of Common Stock in the open market, but in no event later than the fifteenth (15th) day of the third calendar month of the calendar year following the calendar

year in which the PRSUs originally became vested. The form of such delivery (e.g. , a stock certificate or electronic entry evidencing such shares) will be determined by the Company. In all cases, the delivery of shares under the Actual Award is intended to comply with Treasury Regulation Section 1.409A-1(b)(4) and will be construed and administered in such a manner.

7. DIVIDEND EQUIVALENT PAYMENTS. You will be entitled to receive payments equal to any cash dividends and other distributions paid with respect to a corresponding number of shares issuable pursuant to the Award, provided that if any such dividends or distributions are paid in shares, the Fair Market Value of such shares will be converted into additional shares issuable pursuant to the Award, and further provided that such additional shares will be subject to the same forfeiture restrictions and restrictions on transferability as apply to the shares issuable in settlement of the Award with respect to which they relate.

8. RESTRICTIVE LEGENDS. The shares issued in settlement of the Actual Award will be endorsed with appropriate legends as determined by the Company.

9. AWARD NOT AN EMPLOYMENT OR SERVICE CONTRACT.

(a) Your Continuous Service with the Company or an Affiliate is not for any specified term and may be terminated by you or by the Company or an Affiliate at any time, for any reason, with or without cause and with or without notice. Nothing in this Agreement (including, but not limited to, the vesting of the Award pursuant to Section 2 or the issuance of the shares in settlement of the Award), the Plan or any covenant of good faith and fair dealing that may be found implicit in this Agreement or the Plan will: (i) confer upon you any right to continue in the employ of, or affiliation with, the Company or an Affiliate; (ii) constitute any promise or commitment by the Company or an Affiliate regarding the fact or nature of future positions, future work assignments, future compensation or any other term or condition of employment or affiliation; (iii) confer any right or benefit under this Agreement or the Plan unless such right or benefit has specifically accrued under the terms of this Agreement or Plan; or (iv) deprive the Company or an Affiliate of the right to terminate your Continuous Service relationship, if any, at any time, and without regard to any future vesting opportunity that you may have.

(b) By accepting the Award, you acknowledge and agree that the right to continue vesting in the Actual Award pursuant to Section 2 and the schedule set forth in the Grant Notice is earned only by remaining in Continuous Service with the Company or an Affiliate (not through the act of being hired, being granted the Award or any other award or benefit) and that the Company has the right to reorganize, sell, spin-out or otherwise restructure one or more of its businesses or Affiliates at any time or from time to time, as it deems appropriate (a “*reorganization*”). You further acknowledge and agree that such a reorganization could result in the termination of your Continuous Service, or the termination of Affiliate status of your employer and the loss of benefits available to you under this Agreement, including but not limited to, the termination of the right to continue vesting in the Actual Award. You further acknowledge and agree that this Agreement, the Plan, the transactions contemplated hereunder and the vesting schedule set forth in the Grant Notice or any covenant of good faith and fair dealing that may be found implicit in any of them do not constitute an express or implied promise of continued engagement as an employee or consultant with the Company or an Affiliate for the term of this Agreement, for any period, or at all, and will not interfere in any way with your right or the right of the Company or an Affiliate to terminate your Continuous Service at any time, with or without cause and with or without notice.

10. RESPONSIBILITY FOR TAXES.

(a) You acknowledge that, regardless of any action taken by the Company, the ultimate liability for all income tax, social insurance, payroll tax, fringe benefits tax, payment on account or other tax-related items related to your participation in the Plan and legally applicable to you or deemed by the Company in its discretion

to be an appropriate charge to you even if legally applicable to the Company (“ ***Tax-Related Items*** ”) is and remains your responsibility and may exceed the amount actually withheld by the Company.

(b) Prior to any relevant taxable or tax withholding event, as applicable, you agree to make adequate arrangements satisfactory to the Company and/or the Employer to satisfy all Tax-Related Items. In this regard, you authorize the Company or its agent to satisfy their withholding obligations with regard to all Tax-Related Items, if any, by any of the following means or by a combination of such means: (i) withholding from any compensation otherwise payable to you by the Company or the Employer; (ii) causing you to tender a cash payment; (iii) entering on your behalf (pursuant to this authorization without further consent) into a “same day sale” commitment with a broker dealer that is a member of the Financial Industry Regulatory Authority (a “ ***FINRA Dealer*** ”) whereby you irrevocably elect to sell a portion of the shares to be delivered under the Award to satisfy the Tax-Related Items and whereby the FINRA Dealer irrevocably commits to forward the proceeds necessary to satisfy the Tax-Related Items directly to the Company and/or its Affiliates; or (iv) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to you in connection with the Actual Award with a Fair Market Value (measured as of the date shares of Common Stock are issued pursuant to Section 6) equal to the amount of such Tax-Related Items. Depending on the withholding method, the Company may withhold or account for Tax-Related Items by considering applicable minimum statutory withholding rates or other applicable withholding rates, including maximum applicable rates, in which case you will receive a refund of any over-withheld amount in cash and will have no entitlement to the Common Stock equivalent. If the obligation for Tax-Related Items is satisfied by withholding in shares of Common Stock, for tax purposes, you are deemed to have been issued the full number of shares of Common Stock issuable in settlement of the vested portion of the Award, notwithstanding that a number of the shares of Common Stock are held back solely for the purpose of paying the Tax-Related Items.

(c) Finally, you agree to pay to the Company or the Employer any amount of Tax-Related Items that the Company or the Employer may be required to withhold or account for as a result of your participation in the Plan that cannot be satisfied by the means previously described. The Company may refuse to issue or deliver the shares or the proceeds of the sale of shares of Common Stock if you fail to comply with your obligations in connection with the Tax-Related Items.

11. NO OBLIGATION TO MINIMIZE TAXES. You acknowledge that the Company is not making representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the Award, including, but not limited to, the grant, vesting or settlement of the Award, the subsequent sale of shares of Common Stock acquired pursuant to such settlement and the receipt of any dividends and/or any dividend equivalent payments. Further, you acknowledge that the Company does not have any duty or obligation to minimize your liability for Tax-Related Items arising from the Award and will not be liable to you for any Tax-Related Items arising in connection with the Award.

12. NO ADVICE REGARDING GRANT. The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding your participation in the Plan, or your acquisition or sale of the underlying shares of Common Stock. You are hereby advised to consult with your own personal tax, financial and/or legal advisors regarding the Tax-Related Items arising in connection with the Award and by accepting the Award, you have agreed that you have done so or knowingly and voluntarily declined to do so.

13. UNSECURED OBLIGATION. The Award is unfunded, and as a holder of a vested Award, you will be considered an unsecured creditor of the Company with respect to the Company’s obligation, if any, to issue shares pursuant to this Agreement. You will not have voting or any other rights as a stockholder of the Company with respect to the shares to be issued pursuant to this Agreement until such shares are issued to you pursuant to Section 6 of this Agreement. Upon such issuance, you will obtain full voting and other rights as a stockholder of

the Company. Nothing contained in this Agreement, and no action taken pursuant to its provisions, will create or be construed to create a trust of any kind or a fiduciary relationship between you and the Company or any other person.

14. OTHER DOCUMENTS . You hereby acknowledge receipt or the right to receive a document providing the information required by Rule 428(b)(1) promulgated under the Securities Act, which includes the Plan prospectus. In addition, you acknowledge receipt of the Company's policy permitting certain individuals to sell shares only during certain "window" periods and the Company's insider trading policy, in effect from time to time.

15. NOTICES. Any notices provided for in the Grant Notice, this Agreement or the Plan will be given in writing and will be deemed effectively given upon receipt or, in the case of notices delivered by the Company to you, five (5) days after deposit in the United States mail, postage prepaid, addressed to you at the last address you provided to the Company. Notwithstanding the foregoing, the Company may, in its sole discretion, decide to deliver any documents related to participation in the Plan and the Award by electronic means or to request your consent to participate in the Plan by electronic means. You hereby consent to receive such documents by electronic delivery and, if requested, to agree to participate in the Plan through an on-line or electronic system established and maintained by the Company or another third party designated by the Company.

16. MISCELLANEOUS.

(a) The rights and obligations of the Company under the Award will be transferable to any one or more persons or entities, and all covenants and agreements hereunder will inure to the benefit of, and be enforceable by the Company's successors and assigns. Your rights and obligations under the Award may only be assigned with the prior written consent of the Company.

(b) You agree upon request to execute any further documents or instruments necessary or desirable in the sole determination of the Company to carry out the purposes or intent of the Award.

(c) You acknowledge and agree that you have reviewed the documents provided to you in relation to the Award in their entirety, have had an opportunity to obtain the advice of counsel prior to executing and accepting the Award, and fully understand all provisions of such documents.

(d) This Agreement will be subject to all applicable laws, rules, and regulations, and to such approvals by any governmental agencies or national securities exchanges as may be required.

(e) All obligations of the Company under the Plan and this Agreement will be binding on any successor to the Company, whether the existence of such successor is the result of a direct or indirect purchase, merger, consolidation, or otherwise, of all or substantially all of the business and/or assets of the Company.

17. GOVERNING PLAN DOCUMENT. The Award is subject to all the provisions of the Plan, the provisions of which are hereby made a part of the Award, and is further subject to all interpretations, amendments, rules and regulations which may from time to time be promulgated and adopted pursuant to the Plan. Except as expressly provided herein, in the event of any conflict between the provisions of the Award and those of the Plan, the provisions of the Plan will control.

18. SEVERABILITY. If all or any part of this Agreement or the Plan is declared by any court or governmental authority to be unlawful or invalid, such unlawfulness or invalidity will not invalidate any portion of this Agreement or the Plan not declared to be unlawful or invalid. Any Section of this Agreement (or part of such a Section) so declared to be unlawful or invalid will, if possible, be construed in a manner which will give

effect to the terms of such Section or part of a Section to the fullest extent possible while remaining lawful and valid.

19. EFFECT ON OTHER EMPLOYEE BENEFIT PLANS. The value of the Award subject to this Agreement will not be included as compensation, earnings, salaries, or other similar terms used when calculating your benefits under any employee benefit plan sponsored by the Company or any Affiliate, except as such plan otherwise expressly provides. The Company expressly reserves its rights to amend, modify, or terminate any of the Company's or any Affiliate's employee benefit plans.

20. AMENDMENT. This Agreement may not be modified, amended or terminated except by an instrument in writing, signed by you and by a duly authorized representative of the Company. Notwithstanding the foregoing, this Agreement may be amended solely by the Board by a writing which specifically states that it is amending this Agreement, so long as a copy of such amendment is delivered to you, and provided that, except as otherwise expressly provided in the Plan, no such amendment adversely affecting your rights hereunder may be made without your written consent. Without limiting the foregoing, the Board reserves the right to change, by written notice to you, the provisions of this Agreement in any way it may deem necessary or advisable to carry out the purpose of the grant as a result of any change in applicable laws or regulations or any future law, regulation, ruling, or judicial decision, provided that any such change will be applicable only to rights relating to that portion of the Award which is then subject to restrictions as provided herein.

21. COMPLIANCE WITH SECTION 409A OF THE CODE . The Award is intended to comply with the "short-term deferral" rule set forth in Treasury Regulation Section 1.409A-1(b)(4). Notwithstanding the foregoing, if it is determined that the Award fails to satisfy the requirements of the short-term deferral rule and is otherwise deferred compensation subject to Section 409A, and if you are a "Specified Employee" (within the meaning set forth Section 409A(a)(2)(B)(i) of the Code) as of the date of your separation from service (within the meaning of Treasury Regulation Section 1.409A-1(h)), then the issuance of any shares that would otherwise be made upon the date of the separation from service or within the first six months thereafter will not be made on the originally scheduled date(s) and will instead be issued in a lump sum on the date that is six months and one day after the date of the separation from service, with the balance of the shares issued thereafter in accordance with the original vesting and issuance schedule set forth above, but if and only if such delay in the issuance of the shares is necessary to avoid the imposition of taxation on you in respect of the shares under Section 409A of the Code. Each installment of shares that vests is intended to constitute a "separate payment" for purposes of Treasury Regulation Section 1.409A-2(b)(2).

* * *

This Agreement will be deemed to be signed by you upon the signing by you of the Performance Restricted Stock Unit Grant Notice to which it is attached.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-188717, 333-195356, 333-208134, 333-214451, 333-219843, and 333-226626) of Tableau Software, Inc. of our report dated February 22, 2019 relating to the consolidated financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Seattle, Washington
February 22, 2019

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Adam Selipsky, certify that:

1. I have reviewed this Annual Report on Form 10-K of Tableau Software, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 22, 2019

By: /s/ Adam Selipsky

Adam Selipsky
President and Chief Executive Officer
(Principal Executive Officer)

**CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Damon Fletcher, certify that:

1. I have reviewed this Annual Report on Form 10-K of Tableau Software, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 22, 2019

By: /s/ Damon Fletcher

Damon Fletcher

Chief Financial Officer

(Principal Financial and

Accounting Officer)

Exhibit 32.1

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002***

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. 1350), Adam Selipsky, President and Chief Executive Officer (Principal Executive Officer) of Tableau Software, Inc. (the "Company"), and Damon Fletcher, Chief Financial Officer (Principal Financial and Accounting Officer) of the Company, each hereby certifies that, to the best of his knowledge:

1. The Company's Annual Report on Form 10-K for the year ended December 31, 2018, to which this Certification is attached as Exhibit 32.1 (the "Report"), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act, and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 22, 2019

/s/ Adam Selipsky

Adam Selipsky

President and Chief Executive Officer

(Principal Executive Officer)

/s/ Damon Fletcher

Damon Fletcher

Chief Financial Officer

(Principal Financial and Accounting Officer)

*This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Tableau Software, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.