

PROS Holdings, Inc.
Form 10-K
February 15, 2017
Table of Contents

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

Form 10-K
(MARK ONE)

ý ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2016

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 001-33554

PROS HOLDINGS, INC.
(Exact Name of Registrant as Specified in Its Charter)

Delaware 76-0168604
(State or Other Jurisdiction of (I.R.S. Employer
Incorporation or Organization) Identification No.)

3100 Main Street, Suite 900, Houston, Texas 77002
(Address of Principal Executive Offices) (Zip code)
Registrant's telephone number, including area code: (713) 335-5151
Securities Registered Pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, par value \$0.001 per share	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 Exchange 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 and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted 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 and post 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 or a smaller reporting company. See definition of "large accelerated filer", "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.:

Large Accelerated Filer Accelerated Filer

Non-Accelerated Filer (do not check if a smaller reporting company) Smaller Reporting Company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes

No

The aggregate market value of voting and non-voting common equity held by non-affiliates of the registrant was approximately \$357.7 million as of June 30, 2016 based upon the closing price for the registrant's of the common stock on the New York Stock Exchange. This determination of affiliate status was based on publicly filed documents and is not necessarily a conclusive determination for other purposes.

As of February 9, 2017, there were outstanding 30,877,466 shares of common stock, par value \$0.001, of the registrant.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement relating to its 2016 Annual Stockholders Meeting, to be filed within 120 days of the end of the fiscal year ended December 31, 2016, are incorporated by reference into Part III of this Annual Report on Form 10-K.

Table of Contents

PROS Holdings, Inc.
 Annual Report on Form 10-K
 Table of Contents
 For the Year Ended December 31, 2016

Item Description	Page
<u>Part I</u>	
1 <u>Business</u>	<u>2</u>
1A. <u>Risk Factors</u>	<u>10</u>
1B. <u>Unresolved Staff Comments</u>	<u>23</u>
2 <u>Properties</u>	<u>23</u>
3 <u>Legal Proceedings</u>	<u>23</u>
4 <u>Mine Safety Disclosure</u>	<u>23</u>
 <u>Part II</u>	
5 <u>Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities</u>	<u>24</u>
6 <u>Selected Financial Data</u>	<u>26</u>
7 <u>Management’s Discussion and Analysis of Financial Condition and Results of Operations</u>	<u>27</u>
7A. <u>Quantitative and Qualitative Disclosures About Market Risk</u>	<u>44</u>
8 <u>Financial Statements and Supplementary Data</u>	<u>44</u>
9 <u>Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u>	<u>44</u>
9A. <u>Controls and Procedures</u>	<u>44</u>
9B. <u>Other Information</u>	<u>45</u>
 <u>Part III</u>	
10 <u>Directors, Executive Officers and Corporate Governance</u>	<u>46</u>
11 <u>Executive Compensation</u>	<u>46</u>
12 <u>Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	<u>46</u>
13 <u>Certain Relationships, Related Transactions and Director Independence</u>	<u>46</u>
14 <u>Principal Accountant Fees and Services</u>	<u>46</u>
 <u>Part IV</u>	
15 <u>Exhibits and Financial Statement Schedules</u>	<u>47</u>
16 <u>Form 10-K Summary</u>	<u>F-36</u>

Table of Contents

SIGNIFICANT RELATIONSHIPS REFERENCED IN THIS ANNUAL REPORT

The terms "PROS," "we," "us," and "our" refer to PROS Holdings, Inc., a Delaware corporation, and all of its subsidiaries that are consolidated in conformity with the generally accepted accounting principles in the United States of America ("GAAP").

CAUTIONARY STATEMENT REGARDING FORWARD LOOKING STATEMENTS

This Annual Report on Form 10-K contains certain statements that may be deemed to be "forward-looking statements" that anticipate results based on our estimates, assumptions and plans that are subject to uncertainty. These statements are made subject to the safe-harbor provisions of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements in this report not dealing with historical results or current facts are forward-looking and are based on estimates, assumptions and projections. Statements which include the words "believes," "seeks," "expects," "may," "should," "intends," "likely," "targets," "plans," "anticipates," "estimates," or the negative version of those words and similar statements of future or forward-looking nature identify forward-looking statements. The forward-looking statements made herein are only made as of the date hereof, and we undertake no obligation to publicly update such forward-looking statements whether as a result of new information, future events or otherwise.

Numerous important factors, risks and uncertainties affect our operating results, including, without limitation, those contained in this report, and could cause our actual results to differ materially, from the results implied by these or any other forward-looking statements made by us or on our behalf. There can be no assurance that future results will meet expectations. You should pay particular attention to the important risk factors and cautionary statements described in the section of this report entitled "Risk Factors". You should also carefully review the cautionary statements described in the other documents we file from time to time with the Securities and Exchange Commission ("SEC"), specifically all Quarterly Reports on Form 10-Q and Current Reports on Form 8-K. Information contained on our website is not part of this report.

Part I

Item 1. Business

Overview

PROS is a revenue and profit realization company that helps customers realize their potential through the blend of simplicity and data science. PROS offers solutions to help accelerate sales, formulate winning pricing strategies and align product, demand and availability. PROS revenue and profit realization solutions are designed to allow customers to experience meaningful revenue growth, sustained profitability and modernized business processes. We also provide professional services to implement our software solutions. We have completed over 900 implementations of our solutions in more than 55 countries and our customers benefit from 30 years of accumulated knowledge and data science infused into our purpose-built industry solutions.

We were incorporated in Texas in 1985. We reincorporated as a Delaware corporation in 1998. In 2002, we reorganized as a holding company in Delaware. Our principal executive offices are located at 3100 Main Street, Suite 900, Houston, Texas 77002. We report as one operating segment with our Chief Executive Officer acting as our chief operating decision maker. Our telephone number is (713) 335-5151. Our website is www.pros.com. Our website and the information contained therein or connected thereto are not intended to be incorporated into this Annual Report on Form 10-K.

Our Industry

Data-driven decision making is an important driver of business performance. Intense global competition, market volatility and rising costs put pressure on companies to simultaneously drive top-line and bottom-line results. In response to these pressures, we believe companies are increasingly focused on software solutions that leverage prescriptive analytics to accelerate the process of converting prospects to customers using data science-based

decision-making technology. We also believe that market forces, including increasingly complex business models, uncertain demand for products and services, volatile costs, and exponentially increasing enterprise and market data, will accelerate the demand for software solutions that align critical sales, pricing and revenue management processes to help increase visibility, business agility and customer engagement. We believe the market for solutions that address the needs for companies to improve top-line and bottom-line financial results simultaneously is a large and growing opportunity that spans most major industries.

Table of Contents

Our Solutions

PROS revenue and profit realization solutions offer what we believe is a holistic approach to improving revenue and profit performance. Our selling and pricing solutions leverage prescriptive analytics designed to accelerate the process of converting prospects to customers, using data science-based decision-making technology. Our solutions are designed to enable companies to move pricing and revenue management strategies to leveraging scaled data-driven pricing strategies that are formulated to help increase profit margins by driving profit expansion and protecting against profit erosion. These data-driven insights help identify which customers and prospects of a company are most likely to buy, and what offers and price points are most likely to result in a closed deal. These insights leverage data science based on a company's historic customer transactions, market and other data to uncover customer buying patterns and preferences. This data science embedded in our solutions provides our customers with predictive and prescriptive guidance on key business decisions that drive growth and profitability, including product mix optimization, price forecasting, price optimization, product configuration recommendations, cross-sell and upsell recommendations, attrition detection, and willingness-to-pay. Our solutions also help to increase visibility, business agility and customer engagement by aligning critical sales, pricing and revenue management processes. As a result, our solutions make it easier for companies to configure the correct product(s), set the right price and get a quote into the hands of a customer faster.

We primarily offer our solutions as Software-as-a-Service ("SaaS"). Our subscription services enable our customers to implement, access and use our software on the PROS cloud via an internet connection. We believe our cloud solutions allow our customers to reduce their initial investment in third-party software, hardware, and administration requirements over traditional enterprise software, and also allow smaller customers to cost-effectively leverage our enterprise class infrastructure, infrastructure management, security and other best practices. In addition, as we manage all product updates and upgrades of software deployed on the PROS cloud on behalf of our customers, we are able to provide our customers with our latest product innovations in a more uniform way. Over time, we expect that this model will require us to support fewer old versions of our software solutions, which would allow our product development team to focus more effort on creating innovative enhancements to our existing products and developing new products. We offer both single-tenant and multi-tenant solutions under our SaaS model generally via three year subscriptions with pricing generally based on the number of users, data volume and revenue managed by our software.

Before 2016, we primarily offered perpetual license solutions to our customers. For perpetual licenses, our customers received the perpetual right to use our software. Our license agreements provide customers with the right to use licensed solutions within a specific license scope, including but not limited to revenue, geography, users, and business unit. The vast majority of our software license customers also purchased software maintenance and support, generally for an initial period of two years, then annual renewals thereafter. Software maintenance and support include unspecified software updates and enhancements on a when-and-if-available basis, maintenance releases, and patches released during the term of the support period.

Our high-performance software architecture supports real-time, high-volume transaction processing and enables us to handle the processing and database requirements of sophisticated customers, including those who need to respond to their customers with sub-second electronic response requirements. We provide standardized configurations of our software based on the industries we serve and offer professional services to configure these solutions to meet the specific needs of each customer. Our software solutions currently operate in large, complex and demanding information technology environments.

PROS revenue and profit realization software solutions enable companies across the many industries that we service to improve top-line and bottom-line financial results simultaneously by aligning sales, pricing, product, demand and availability. Our cloud solutions for revenue and profit realization include SellingPRO, PricingPRO and RevenuePRO.

Table of Contents

Solutions for Selling

Our SellingPRO solutions are comprised of a broad set of configuration, quoting and eCommerce capabilities with data science-driven, actionable insights to deliver sales proposals through prescriptive selling actions, pricing and offer guidance designed to convert more of the right deals at the right price, and with greater speed, accuracy, scale and consistency across all of the customers sales channels. SellingPRO includes the following editions:

SellingPRO Deal Desk edition provides deal analytics to a customer's sales team to quickly analyze a large volume of complex opportunities and instantly create proposals with prescriptive products, services, terms and pricing.

SellingPRO Deal Desk edition also simplifies deal approval processes and accelerates responsiveness by automating quote generation and approval workflows.

SellingPRO Smart CPQ edition integrates PROS data science-driven price guidance with a customer's existing CRM solution to enable sales teams to quickly create accurate and highly-customized offers for each customer.

SellingPRO eCommerce edition provides offer and pricing guidance through a personalized and consistent customer experience across sales channels including but not limited to customer partner internet portals and eCommerce websites. SellingPRO eCommerce edition also enables companies to efficiently reach new sales markets and add new sales channels from a single product and configuration repository.

Solutions for Pricing

Our PricingPRO solution delivers insight into pricing practices, enhances control over pricing execution and provides prescriptive pricing recommendations to the sales team. PricingPRO includes the following editions:

PricingPRO Control edition helps companies centralize all pricing strategies and execution to create a single source of pricing information, manage and enforce pricing policies, quickly change pricing strategies and eliminate pricing errors.

- PricingPRO Guidance edition provides data science-driven, market-based pricing and offer guidance to help sales teams confidently negotiate pricing on each deal.

Solutions for Revenue Management

PROS revenue management solutions are a set of integrated software solutions that enable enterprises in the travel industry, including the airline, hotel and cruise industries, designed to drive revenue and profit-maximizing business strategies through the application of advanced forecasting, optimization technologies and decision-support capabilities. These big data solutions provide businesses the tools and processes to help maximize revenue and profitability; quickly adapt to changing market conditions and business objectives; differentiate customers by market and sales channel; effectively conduct real-time negotiations; monitor

Table of Contents

pricing and revenue management performance; and increase customer loyalty by providing the right products and services to the right customer at the right time. Our RevenuePRO suite of products include the following solutions:

- PROS Revenue Management manages passenger demand with either leg- or segment-based revenue management.
- PROS O&D™ manages passenger demand with passenger name record (PNR), based revenue management.
- PROS Real-Time Dynamic Pricing™ determines optimal availability based on real-time evaluations.
- PROS PAV provides real-time availability and pricing to distribution channels, and keeps rules, fares and other data synchronized and deployable across multiple data centers.
- PROS Group Sales Optimizer manages the Airline Group booking process by determining optimal Group availability and pricing.
- PROS Analytics for Airlines identifies hidden revenue opportunities.
- PROS Network Revenue Planning delivers network-oriented fare class segmentation.
- PROS Cruise Pricing and Revenue Management allows customers to understand their consumers price sensitivities, track competitor behavior, and quickly set prices and availability.
- PROS Hotel Revenue Management helps customers simplify, accelerate and improve pricing decision making.

Technology

Software Architecture. Our software architecture is based on open standards such as Java, HTML5, JavaScript, XML, and HTTP. We have created a component-based design in a service-oriented architecture to develop a flexible, layered framework. This framework supports parallel and independent evolution and innovation in technologies and product features.

Micro-services Architecture. A comprehensive web services interface is at the heart of our architecture. This interface enables extension onto other platforms and the creation of rich integrated solutions. It is also the foundation of our initiative to bring our solutions to the enterprise software and devices that many businesses are already using.

Embedded Science. Our robust science-based capabilities such as forecasting, optimization, segmentation, and price guidance allow us to leverage the deep expertise and research of our science and research group in our solutions. These capabilities are industry-independent and are validated using our proprietary verification and testing processes.

Configuration vs. Custom Coding. Our solutions can be configured to meet each customer's business needs through configuration rather than custom code. The configuration capabilities define both a business layer (including definition of user workflows, executive dashboards, analytics views, calculations, approval processes and alerts), as well as a data layer that permits configuration of data structures, including hierarchical dimensions, pricing levels and measures. Much of the configuration can be performed by a business user without information technology personnel involvement. We maintain configurations allowing our customers to use the latest version of our solutions.

Scalability. We leverage modern big data technologies such as MapReduce and Hadoop®, NoSQL databases such as Cassandra and MongoDB®, and in-memory and column-oriented data stores to scale to large data volumes and high user request rates. The scalability of our software solutions has been tested and validated in conjunction with third-party vendors.

Data Integration. The data needed to execute and optimize sales, quoting, pricing, rebate and revenue management functionality typically resides in multiple sources, such as a company's enterprise resource planning ("ERP"), supply chain management ("SCM"), customer relationship management ("CRM"), reservations and inventory systems, and/or industry-specific transaction systems. In addition, productivity tools such as spreadsheets and external market data sources are common. Our data integration capabilities utilize web services and file-based data interfacing to bring data from disparate sources together into a single cohesive database, both in real time and through scheduled batch tasks. We also provide certified content for integration with SAP as well as integration development services using industry

standard tools.

User Interface. Our technology provides a rich, browser-based interface that supports both local and remote users. This interface supports a wide variety of interactive charts and other data views, and provides a comprehensive data security model based on user role and scope of responsibility. We also offer capabilities for multiple mobile devices, tablet, CRM systems, and client applications.

5

Table of Contents

Cloud Infrastructure. Our SaaS solutions are fully architected, scaled and managed by PROS to meet enterprise-class data demands. We currently deliver our solutions from enterprise cloud computing platform providers, including Microsoft Azure, as well as from secure co-location data centers operated by third parties. Our infrastructure is designed to achieve high levels of security, scalability, performance and availability. We provide a highly secure computing environment as well as high application availability.

Professional Services

We provide software-related professional services, including implementation and configuration services, consulting and training.

Implementation and Configuration

Our software solution implementations have a standardized and tested implementation process developed through years of experience implementing our software solutions in global enterprises across multiple industries.

Our professional services team works closely with our customers to develop an integrated project plan to help them accelerate time to value. Pursuant to these plans, we provide configuration services related to our solutions. We also assist customers in loading and validating data and supporting organizational activities to assist our customers' transition from awareness of their pricing challenges to adoption of pricing excellence best practices. In addition to our own internal professional services team, we also work with a team of globally diverse partners who have been certified to implement our software.

Strategic Services

Our strategic services include discovery and insight consulting to analyze a customer's current pricing processes and data, identifying and prioritizing specific high-value pricing opportunities, and recommending pricing best practices and strategic pricing services. We also offer change management, pricing process redesign, pricing organizational design, opportunity assessment and performance management consulting. These strategic services enhance our partnerships with our customers and help them achieve their specific pricing goals.

Training

We offer training to both our customers and partners to increase the knowledge and skills to deploy and use the full functionality of our software solutions. We offer an array of live and virtual classroom training, as well as tailored, private on-site classroom training. Our courses include training on all aspects of our software solutions, from introductory on-demand mini-courses to multi-day hands-on deep technical classroom sessions.

Maintenance and Support

We offer ongoing maintenance and support services for our software solutions using a global model to support our customers across major geographies. Maintenance enrollment entitles a customer to solicit support through a web-based interface which allows the customer to submit and track issues, access our online knowledge base and receive unspecified upgrades, maintenance releases and bug fixes during the term of the support period on a when-and-if-available basis. In addition, our customer support personnel responds to customer issues using an escalation process that prioritizes reported issues based on a defined set of severity levels, as well as assists customers in deploying our standard releases for each software solution by providing release web seminars and documentation. Maintenance fees are an important source of recurring revenue, and we invest significant resources in providing these services. Revenue from maintenance and support services comprised 45%, 38%, and 29% of our total revenue in 2016, 2015 and 2014, respectively. We expect our maintenance revenue growth will decrease as a result of customers licensing less of our software as we shift to a cloud strategy.

Subscription Services

Our subscription services generally provide customers access to our software within a cloud-based IT environment that we manage and offer to customers on a subscription basis and allow our customers to benefit from our latest cloud solutions, reduce infrastructure, installation, and ongoing administration requirements. We historically also offered cloud-based services to allow existing customers who previously purchased licenses to our software to have access to that software within a cloud-based IT environment that we manage to allow those customers to reduce infrastructure and ongoing administration requirements as an

6

Table of Contents

alternative to their on-premise deployment of our software. We generally offer these services via three-year contracts with pricing based on the data volumes and service levels requested.

Customers

We sell our software solutions to customers across many industries, including manufacturing, distribution, services and travel industries, including automotive and industrial, cargo, chemicals and energy, consumer goods, insurance, food and beverage, healthcare and high tech. Our customers are generally large global enterprises, although we also have customers that are much smaller in scope of operations. In each of 2016, 2015 and 2014, we had no single customer that accounted for 10% or more of revenue.

Sales and Marketing

We sell and market our software solutions primarily through our direct global sales force and indirectly through resellers and systems integrators. Our sales force is organized by our target markets of the manufacturing, distribution, services and travel industries, including automotive and industrial, cargo, chemicals and energy, consumer goods, insurance, food and beverage, healthcare and high tech. Our sales force is responsible for the worldwide sale of our solutions to new and existing customers, and works in concert with our solutions personnel for selling and providing solution demonstrations to new customers.

Our marketing activities consist of a variety of programs designed to generate sales leads and build awareness of our solutions. We host conferences for sales, pricing, and revenue management professionals, host informational web seminars and participate in and sponsor other industry and trade conferences and organizations.

International Operations

We are a global company that conducts sales, sales support, professional services, product development and support, and marketing around the world. Our headquarters are located in Houston, Texas, and, as of December 31, 2016, we also have offices in London, England; Dublin, Ireland; Paris, France; Toulouse, France; Munich, Germany; Frankfurt, Germany; Sydney, Australia; San Francisco, California; Skokie, Illinois; and Austin, Texas. We conduct development activities predominantly in France and the U.S., and also utilize third-party contractors in Bolivia, Colombia and India. We plan to continue to expand our operations in international locations to meet the strategic objectives of our business.

Approximately 63%, 62%, and 56% of our total revenue came from customers outside the U.S. for the years ended December 31, 2016, 2015 and 2014, respectively. Our business, financial condition and results of operations could be adversely impacted by factors, including currency fluctuations or regulatory, political, social and economic developments or instability in the foreign jurisdictions in which we operate. For additional financial information about geographic areas, see Note 16 of the Notes to the Consolidated Financial Statements.

Seasonality

Historically, we have experienced a higher volume of transactions in the quarter ended December 31, which is our fourth fiscal quarter, and to a lesser extent, during other fiscal quarters. However, our transition to cloud strategy has moderated, and may continue to moderate our historical seasonality trends.

Competition

The market for solutions that provide automation, analytics and intelligence to drive sales and profitability is competitive, fragmented and rapidly evolving. For example, we have seen consolidation in the quoting software market with large CRM vendors acquiring smaller quoting companies as they attempt to provide end-to-end solutions to drive sales and profit. Today, we are increasingly competing in sales ecosystem with competitors that all aim to drive effectiveness and efficiency in selling. Our competition has increased in recent years as we expanded into adjacent technologies.

We believe our customers include the following factors when evaluating us against our competition:

- large and referenceable global customer base;
- industry domain expertise;
- domain management best practices expertise and delivery;
- ability for users to configure the solution to their needs;

Table of Contents

- depth of expertise in data and pricing science;
- real-time solutions;
- proven benefits of return on investment, total cost of ownership, and time-to-value;
- organizational change management expertise;
- product architecture, functionality, performance, reliability and scalability;
- ability to offer integrated high-value solutions;
- breadth and depth of product and service offerings;
- services and customer support quality;
- size and quality of partner ecosystem;
- existing customer relationships; and
- vendor viability.

We compete with a number of larger and smaller companies. Most of our competitors compete against individual products of ours, rather than at a strategic level across multiple products. For example, Vendavo and Zilliant compete against the pricing portion of our revenue and profit realization solutions. Others, such as Apptus, Oracle (through its acquisition of Big Machines), and Salesforce.com (through its acquisition of SteelBrick) compete against the quoting portion of our revenue and profit realization solutions. Yet others, such as Sabre Airline Solutions, Amadeus and AirRM compete against a portion of our revenue management solutions in the airline industry. Several large enterprise application providers, such as JDA Software, Oracle and SAP, have developed offerings that include limited pricing and revenue management functionality. Our solutions also compete with solutions developed internally by businesses. These businesses generally rely on a combination of manual processes, external consultants, spreadsheets and internally-developed software tools.

We believe these competitors do not provide all of the functionality needed to support an organization interested in optimizing sales growth through data science-driven pricing, quoting and revenue management. In the past, some of these vendors have competed on price and by bundling their pricing and revenue management applications with other enterprise applications, and this may continue into the future. We believe that we distinguish ourselves from these vendors through the breadth and depth of the functionality we offer, the robust integration and configuration capabilities of our solutions, and our proven ability to provide high-value science-based optimization software to our global customer base across multiple industries. In the future, we believe our competition will increase as more companies move into our market segment and as we expand into adjacent market segments.

Intellectual Property and Other Proprietary Rights

Our success and ability to compete is dependent in part on our ability to develop and maintain the proprietary aspects of our technology and operate without infringing upon the proprietary rights of others. Due to the rapidly changing nature of applicable technologies and current limitations in U.S. patent law, we believe that for the improvement of existing solutions and development of new solutions, reliance upon trade secrets and unpatented proprietary know-how are generally more advantageous for us than patent and trademark protection. We also rely on a combination of trade secrets, confidentiality procedures, contractual provisions, patents, trademarks, copyrights and other similar measures to protect our proprietary information.

Research and Development

We believe our innovation with respect to our software solutions is the foundation of our business and accordingly have made substantial investments in research and development for the enhancement of existing products and services and the development of new products and services. We also believe that our long-term investment in the scientific analysis of pricing and revenue management differentiates us from our competitors. We are committed to developing high-value, science-based sales, pricing, and revenue management software solutions as evidenced by our continued investment in research and development. In fiscal 2016, 2015 and 2014, we incurred expenses of \$52.8 million, \$46.8 million and \$43.2 million, respectively, in research and development to enhance our existing portfolio of solutions and

to develop new solutions. Our research and development expenses include costs associated with our product management, product development and science and research groups. We conduct research and development activities predominantly in the U.S. and to a lesser extent in France.

We employ scientists, most of whom are Ph.D.s, to advance sales, pricing, and revenue management technology and its implementation in our software solutions. These scientists have specialties including, but not limited to, operations research, management science, statistics, econometrics, and computational methods. Our scientists regularly interact with our customers,

Table of Contents

product development, sales, marketing, and professional services staff to help keep our science efforts relevant to real-world demands.

Employees

As of December 31, 2016, we had 1,018 full-time personnel, which included 847 employees and 171 outsourced personnel. None of our employees are represented by a labor union or covered by a collective bargaining agreement. We have not experienced any work stoppages and consider our employee relations to be good.

Website

We maintain a website at www.pros.com. No information on our website is incorporated by reference herein. We make available, free of charge through our website, our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, including exhibits thereto, and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, as soon as reasonably practicable after the reports are electronically filed with or furnished to the SEC. Our reports that are filed with, or furnished to, the SEC are also available at the SEC's website at www.sec.gov. You may also read and copy any materials we file with the SEC, free of charge, at the SEC's Public Reference Room at 100 F Street, N.E., Washington, DC 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330.

Annual CEO Certification

Pursuant to Section 303A.12(a) of the New York Stock Exchange ("NYSE") Listed Company Manual, we submitted to the NYSE an annual certification signed by our Chief Executive Officer certifying that he was not aware of any violation by us of NYSE corporate governance listing standards on June 20, 2016.

Table of Contents

Item 1A. Risk Factors

We operate in a dynamic environment that involves numerous risks and uncertainties. The following section describes some of the risks that may adversely affect our business, financial condition or results of operations, and the trading price of our common stock; these risks are not necessarily listed in terms of their importance or level of risk.

Risks relating to our business and industry

Our cloud strategy and new offerings bring new business and operational risks.

We shifted to a cloud strategy in 2015. This focus includes continuing to introduce new products and technology initiatives in the area of cloud computing, including our subscription services. Our subscription services provide our customers with existing and new software management through a hosted service as opposed to traditional software deployments. Our SaaS revenue may not be significant in the future despite our investment, and our internal development and customer support teams may find it difficult or costly to support both traditional software installed by customers and software delivered as a service. Our existing customers may have invested substantial personnel and financial resources in legacy software, and may be reluctant or unwilling to use a cloud-based solution. In addition, since our SaaS customers use our service for important aspects of their business, any errors, defects, disruptions in service or other performance problems could hurt our reputation and may damage our customers' businesses. As a result, customers could elect to not renew, delay or withhold payment to us, we could lose future sales, or customers may make other claims against us, which could result in an increase in our provision for doubtful accounts, an increase in collection cycles for accounts receivable or the expense and risk of litigation.

We are experiencing reduced revenues and corresponding cash flow without a corresponding decrease in expenses as a result of our cloud strategy, which may continue for longer than we expect.

We expect our expenses to substantially exceed our revenues and cash flow in the near term as we continue to make investments as part of our cloud strategy, particularly in new product development, security and cloud operations. In addition, we expect our cloud strategy to impact our historical revenue model as our shift from providing our software predominantly via licenses to subscriptions has impacted, and may continue to impact, our near-term revenue and cash flows. Our cloud strategy may also give rise to other risks that could harm our business, including:

- although we intend to continue to support our perpetual license customers, our emphasis on a cloud strategy may raise concerns among our installed perpetual license customer base and lead to the loss of customers;
- new or existing customers may be reluctant to migrate to a cloud-based solution due to the cost, security or privacy concerns associated with our solutions or cloud applications;
- we may incur costs at a higher than forecasted rate as we expand our cloud operations;
- if we experience a security incident, disruption in delivery, or other problems related to our SaaS and cloud-based solutions, we could lose customers, be found liable for damages, and incur other losses;
- the enterprise cloud computing market is less mature as the market for on-premise enterprise software, and may not be as broadly accepted as on-premise software in the enterprise market; and
- our sales cycles may be delayed if we need to educate customers about the benefits of our cloud solutions, including security and privacy.

Our ability to return to profitability depends on our ability to: drive more subscription sales, develop enhancements to our existing products and develop new products, successfully execute our marketing and sales strategies, appropriately manage our expenses, build our sales and marketing and product development organizations, enter into and maintain beneficial channel relationships, and identify or acquire companies or assets at attractive valuations. If we are not able to execute on these actions and grow our revenue and corresponding cash flows to offset these expected costs, our business may not grow as we anticipate, our operating results could be adversely affected, we may continue to incur net losses, on a GAAP basis, in the future. Additionally, operating margins on our cloud-only products may be lower

than those we have achieved on our more mature products, and our new initiatives may not generate sufficient revenue and cash flows to recoup our investments in them. If any of these events were to occur, it could adversely affect our business, results of operations and financial condition.

If our security measures are breached and unauthorized access is obtained to a customer's data, our data or our IT systems, our solutions may be perceived as not being secure, customers may curtail or stop using our solutions and/or we may incur significant legal and financial exposure and liabilities.

Table of Contents

Our solutions and services involve the storage, and to a more limited extent, the transmission of our customers' proprietary information. Despite the implementation of security measures and third-party security attestations, these systems may still be vulnerable to data theft, computer viruses, malicious software programs, programming errors, attacks by third parties or similar disruptive problems, and could result in someone obtaining unauthorized access to our customers' data or our data, including our intellectual property and other confidential business information, or our IT systems. Because the techniques used to compromise systems change frequently and may not be recognized until launched, we may be unable to anticipate these techniques or to implement adequate preventative measures. In addition, the costs to prevent, eliminate or alleviate security vulnerabilities, computer viruses, malicious software programs, and other attacks by third parties are significant. Our efforts to address these problems may not be successful and could result in interruptions, delays, cessation of service and loss of existing or potential customers. We cannot predict the extent, frequency or impact of these problems on us. Any security breach could result in a loss of confidence in the security of our solutions and services, damage our reputation, negatively impact our future sales, disrupt our business, increase our information security costs, and lead to indemnity obligations, legal liability and other costs.

We depend on third-party data centers and other unrelated service providers and any disruption in these operations could impair the delivery of our service and negatively affect the market for our cloud solutions.

Our cloud products are dependent upon third-party hardware, software and cloud hosting vendors, including Microsoft Azure, all of which must inter-operate for end users to achieve their computing goals. We utilize third-party data center hosting facilities, cloud platform providers, and other service providers to host and deliver our subscription services as well as for our own business operations. While we control and generally have exclusive access to our servers and all of the components of our network that are located in our external data centers, we do not control the operation of these facilities and they are vulnerable to damage or interruption from earthquakes, floods, fires, power loss, telecommunications failures and similar events. They may also be subject to security incidents, break-ins, sabotage, intentional acts of vandalism and similar misconduct. Despite our failover capabilities, standard protocols and other precautions taken at these facilities, the occurrence of a natural disaster or an act of terrorism, a decision to close the facilities without adequate notice or other unanticipated problems at these facilities could result in lengthy interruptions in our service.

In addition, these providers have no obligation to renew their agreements with us on commercially reasonable terms, or at all. If we are unable to renew these agreements on commercially reasonable terms, or if one of our data center operators is acquired, we may be required to transfer our servers and other infrastructure to new data center facilities, and we may incur significant costs and possible service interruption in connection with doing so. Any interruptions or delays in these hosted services, or security or privacy breaches, could damage our reputation, negatively impact our future sales, disrupt our business, and lead to legal liability and other costs. Furthermore, certain of our applications are essential to our customers' ability to price their products or services. Any interruption in our service may affect the availability, accuracy or timeliness of pricing information and as a result could damage our reputation, cause our customers to terminate their use of our solutions, require us to issue service credits to our customers, require us to indemnify our customers against certain losses, and prevent us from gaining additional business from current or future customers.

As we expand our software product portfolio, we could face increased competition as part of entering new markets.

The market for our products is competitive, and we expect competition to continue to increase in the future as we expand our product portfolio and features. We may not compete successfully against future potential competitors, especially those with significantly greater financial resources or brand name recognition. For example, we compete with sales enablement, configure-price-quote and to a lesser extent, rebate management software. Large companies in these spaces may have advantages over us because of their greater brand name recognition, larger customer bases, broader product portfolios, larger distribution channels, or greater financial, technical and marketing resources. As a result, they may be able to adapt more quickly to new or emerging technologies and changes in customer

requirements.

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

We spend substantial amounts of time and money to enhance of our existing products, as well as to research and develop new products. We introduce new products and incorporate additional features, improve functionality or add other enhancements to our existing products in order to meet our customers' demands. Our new products or enhancements could fail to attain sufficient market acceptance for many reasons, including:

- delays in introducing new, enhanced or modified products;
- defects, errors or failures in any of our products;

11

Table of Contents

- inability to operate effectively with the networks of our prospective customers;
- inability to protect against new types of attacks or techniques used by hackers;
- negative publicity about the performance or effectiveness of our network security products;
- reluctance of customers to purchase products based on open source software; and
- disruptions or delays in the availability and delivery of our products.

If our new products or enhancements do not achieve adequate acceptance in the market, our competitive position could be impaired, our revenue could be diminished and the effect on our operating results may be particularly acute because of the significant research and development, marketing, sales and other expenses we incurred in connection with the new product.

We focus primarily on sales, pricing and revenue management software, and if the markets for this software develop more slowly than we expect, our business could be harmed.

We derive most of our revenue from providing our solutions for selling, pricing and revenue management, implementation services and ongoing customer support. The sales and pricing market is evolving rapidly, and it is uncertain whether this software will achieve and sustain high levels of demand and market acceptance. Our success would depend on the willingness of businesses to use sales and pricing software in the manufacturing, distribution, services industries, including automotive and industrial, B2B services, cargo, chemicals and energy, consumer goods, insurance, food and beverage, healthcare, high tech, and travel.

Some businesses may be reluctant or unwilling to implement sales and pricing software for a number of reasons, including failure to understand the potential returns of improving their processes and lack of knowledge about the potential benefits that such software may provide. Even if businesses recognize the need for improved sales and/or pricing processes, they may not select our solutions because they previously have made investments in internally developed solutions. Some businesses may elect to improve their pricing processes through solutions obtained from their existing enterprise software providers, whose solutions are designed principally to address functional areas other than pricing. These enterprise solutions may appeal to customers that wish to limit the number of software vendors on which they rely and the number of different types of solutions used to run their businesses.

If businesses do not embrace the benefits of sales and pricing software, the sales and pricing software market may not continue to develop or may develop more slowly than we expect, either of which would significantly and adversely affect our revenue and operating results. Because the sales and pricing software market is developing and the manner of its development is difficult to predict, we may make errors in predicting and reacting to relevant business trends, which could harm our operating results.

We are subject to a lengthy sales cycle and delays or failures to complete sales may harm our business and cause our revenue and operating income to decline in the future.

While our sales cycle times improved in 2016 relative to our historical average, our sales cycle may take several months to over a year. To sell our solutions successfully and obtain an executed contract, we often have to educate our potential customers about the benefits of our solutions. We expend substantial resources during our sales cycles with no assurance that a sale may ultimately result. The length of each individual sales cycle depends on many factors, a number of which we cannot control. These factors include the customer's requirements, the level of competition we face for that customer's business, and the customer's internal approval processes. Any unexpected lengthening of the sales cycle or failure to secure anticipated orders could negatively affect our revenue. Furthermore, a delay in our ability to obtain a signed agreement or to complete certain contract requirements in a particular quarter could materially reduce our revenue or bookings in that quarter. Any significant failure to generate revenue or delays in recognizing revenue after incurring costs related to our sales or services process could also have a material adverse

effect on our business, financial condition and results of operations.

Failure to sustain our historical maintenance, support and subscription renewal rates and pricing would adversely affect our future revenue and operating results.

Maintenance and support agreements are typically for a term of two years, and subscription agreements are typically for a term of three years. Our customers have no obligation to renew their subscriptions for our services after the expiration of their initial subscription period, and some customers elect not to renew. Historically, maintenance and support revenue has represented a significant portion of our total revenue, including approximately 45%, 38% and 29% of our total revenue for the years ended December 31, 2016, 2015 and 2014, respectively. Subscription revenue has represented approximately 25%, 17% and 13% of our total revenue for the years ended December 31, 2016, 2015 and 2014, respectively.

Table of Contents

We cannot provide assurance that we will be able to accurately predict future customer renewal rates. Our customers' renewal rates may decline or fluctuate as a result of a number of factors, including their level of satisfaction with our services, our ability to continue to regularly add functionality, the reliability (including uptime) of our subscription services, the prices of our services, the actual or perceived information security of our systems and services, mergers and acquisitions affecting our customer base, reductions in our customers' spending levels, or declines in customer activity as a result of economic downturns or uncertainty in financial markets. If our customers choose not to renew their maintenance, support and subscription agreements with us on favorable terms or at all, our business, operating results and financial condition could be harmed. Our opportunity for future growth is also affected by our ability to sell additional features and services to our current customers, which depends on a number of factors, including our customers' satisfaction with our products and services, the prices of our solutions and general economic conditions. If our efforts to cross-sell and upsell to our customers are unsuccessful, the rate at which our business grows might decline.

Competition from vendors of sales, pricing, revenue management and configure-price-quote solutions as well as from companies internally developing their own solutions could adversely affect our ability to sell our solutions and could result in pressure to price our solutions in a manner that reduces our margins and harms our operating results.

The sales, pricing, revenue management and configure-price-quote software market is competitive and rapidly evolving. Our software solutions compete with both solutions developed internally by businesses as well as those solutions offered by competitors. We believe our principal competition consists of pricing, quoting, rebate and revenue management software vendors, including a number of vendors that provide such software for specific industries; as well as large enterprise application providers that have developed offerings that include sales, pricing and revenue management functionality.

We expect additional competition from other established and emerging companies to the extent the sales, pricing, revenue management and configure-price-quote software market continues to develop and expand. We also expect competition to increase as a result of the entrance of new competitors in the market and industry consolidation, including through a merger or partnership of two or more of our competitors or the acquisition of a competitor by a larger company. A number of our current and potential competitors have larger installed bases of users, longer operating histories, broader distribution and greater name recognition than we have. In addition, many of these companies have significantly greater resources than we have. As a result, these companies may be able to respond more quickly to new or emerging technologies and changes in customer demands, and devote greater resources to the development, promotion and sale of their products.

Competition could seriously impede our ability to sell our software solutions and services on terms favorable to us. We do not know how our competition could set prices for their products. Businesses may internally develop solutions, rather than invest in commercially-available solutions. Our current and potential competitors may develop and market new technologies that render our existing or future solutions obsolete, unmarketable or less competitive. In addition, if these competitors develop solutions with similar or superior functionality to our solutions, or if they offer solutions with similar functionality at a substantially lower price than our solutions, we may need to decrease the prices for our solutions in order to remain competitive. If we are unable to maintain our current solutions, services and maintenance pricing due to competitive pressures, our margins could be reduced and our operating results could be adversely affected. We cannot provide assurance that we would be able to compete successfully against current or future competitors or that competitive pressures could not materially and adversely affect our business, financial condition and operating results.

Any unauthorized, and potentially improper, actions of our personnel could adversely affect our business, operating results and financial condition.

The recognition of our revenue depends on, among other things, the terms negotiated in our contracts with our customers. Our personnel may act outside of their authority and negotiate additional terms without our knowledge. We have implemented policies to help prevent and discourage such conduct, but there can be no assurance that such policies would be followed. For instance, in the event that our sales personnel negotiate terms that do not appear in the contract and of which we are unaware, whether such additional terms are written or verbal, we could be prevented from recognizing revenue in accordance with our plans. Furthermore, depending on when we learn of unauthorized actions and the size of the transactions involved, we may have to restate revenue for a previously reported period, which could seriously harm our business, operating results and financial condition.

We made our first two acquisitions in late 2013 and early 2014, and in the future may continue to enter into acquisitions that may be difficult to integrate, fail to achieve our strategic objectives, disrupt our business, dilute stockholder value or divert management attention.

We made our first two acquisitions in late 2013 and early 2014, and in the future may continue to acquire businesses, technologies and products that we intend to complement our existing business, solutions, services and technologies. We cannot

Table of Contents

provide assurance that the acquisitions we have made or may make in the future could provide us with the benefits or achieve the results we anticipated when entering into the transaction. Acquisitions are typically accompanied by a number of risks, including:

- difficulties in integrating the operations and personnel of the acquired companies;
- difficulties in maintaining acceptable standards, controls, procedures and policies, including integrating financial reporting and operating systems, particularly with respect to foreign and/or public subsidiaries;
- disruption of ongoing business and distraction of management;
- inability to maintain relationships with customers of the acquired business;
- impairment of relationships with employees and customers as a result of any integration of new management and other personnel;
- difficulties in incorporating acquired technology and rights into our solutions and services;
- unexpected expenses resulting from the acquisition; and
- potential unknown liabilities associated with the acquisition.

In addition, we may incur debt, acquisition-related costs and expenses, restructuring charges and write-offs as a result of acquisitions. Acquisitions may also result in goodwill and other intangible assets that are subject to impairment tests, which could result in future impairment charges.

We may enter into negotiations for acquisitions that are not ultimately consummated. Those negotiations could result in diversion of management time and significant out-of-pocket costs. If we fail to evaluate and execute acquisitions successfully, we may not be able to achieve our anticipated level of growth and our business and operating results could be adversely affected.

If our goodwill or amortizable intangible assets become impaired, then we could be required to record a significant charge to earnings.

Under GAAP, we review our goodwill and amortizable intangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. GAAP requires us to test for goodwill impairment at least annually. Factors that may be considered a change in circumstances indicating that the carrying value of our goodwill or amortizable intangible assets may not be recoverable include declines in stock price, market capitalization or cash flows and slower growth rates in our industry. We could be required to record a significant charge to earnings in our financial statements during the period in which any impairment of our goodwill or amortizable intangible assets were determined, negatively impacting our results of operations.

Any downturn in sales to our target markets could adversely affect our operating results.

Our success is highly dependent upon our ability to sell our software solutions to customers in the manufacturing, distribution, services, and travel industries, including automotive and industrial, B2B services, cargo, chemicals and energy, consumer goods, insurance, food and beverage, healthcare, high tech and travel. If we are unable to sell our software solutions effectively to customers in these industries, we may not be able to grow our business. It is uncertain whether our software solutions may achieve and sustain the levels of demand and market acceptance that we anticipate. Such uncertainty is attributable to, among other factors, the following:

- it may be more difficult than we currently anticipate to implement our software solutions in certain verticals within our target industries;
- it may be more difficult than we currently anticipate to increase our customer base in our target industries; and
- our limited experience implementing our software solutions in certain verticals within our target industries.

Our revenue growth has historically been derived from customers in many major industries. Our revenue growth is highly dependent upon continued growth of market acceptance in these industries, and there can be no assurance our solutions may achieve or sustain widespread acceptance among customers in these industries. Failure to expand

market acceptance of our solutions or maintain sales in these industries could adversely affect our operating results and financial condition.

Our software solutions require implementation projects that are subject to significant risks and delays, which if any occurred could negatively impact the effectiveness of our software, resulting in harm to our reputation, business and financial performance.

14

Table of Contents

The implementation of our software solutions can involve complex, large-scale projects that require substantial support operations, significant resources and reliance on factors that are beyond our control. For example, the success of our implementation projects is heavily dependent upon the quality of data used by our software solutions, and the commitment of customers' resources and personnel to the projects. We may not be able to correct or compensate for weaknesses or problems in data, or any lack of our customers' commitment and investment in personnel and resources. In addition, implementation of our software solutions can be highly complex and require substantial efforts and cooperation on the part of our customers. If we are unable to successfully manage the implementation of our software solutions such that those products do not meet customer needs or expectations, we may become involved in disputes with our customers and our business, reputation and financial performance may be significantly harmed. For projects accounted for under the percentage-of-completion method, we recognize our license and implementation revenues as implementation services are performed. Any delays in an implementation project or changes in the scope or timing of an implementation project would delay or alter the corresponding revenue recognition and could adversely affect our operating results. In addition, any delays or changes in scope could result in estimated project costs exceeding contracted revenue of which a loss reserve would need to be established which would have an adverse effect on our operating results. If an implementation project for a large customer or a number of customers is substantially delayed or canceled, our ability to recognize the associated revenue and our operating results could be adversely affected.

If our executives and other key personnel are unable to effectively manage our business, or if we fail to attract additional qualified sales, marketing, professional services, product development and other personnel, our revenue and operating results could be adversely affected.

Our future success depends upon the performance and service of our executive officers and other key sales, marketing, development, science and professional services staff. The failure of our executives and key personnel to effectively manage our business or the loss of the services of our executive officers and other key personnel would harm our operations. In addition, our future success could depend in large part on our ability to attract and retain a sufficient number of highly qualified sales, marketing, professional services, product development and other personnel, and there can be no assurance that we may be able to do so. We have continued to add a significant number of new personnel to support our continued growth, and their ability to learn our business and manage it effectively could be important to our continued growth and expansion. In addition, given the highly sophisticated data science included in our solutions, the pool of data scientists and software developers qualified to work on our solutions is limited. The implementation of our software solutions requires highly-qualified personnel, and hiring and retaining such personnel to support our growth may be challenging. Competition for such qualified personnel is intense, and we compete for these individuals with other companies that have greater financial, technical, marketing, service and other resources than we do. If our key personnel are unable to effectively manage our business, or if we fail to attract additional qualified personnel, our operating results could be adversely affected.

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

If we cannot maintain our corporate culture, we could lose the innovation, teamwork and passion that we believe contributes to our success, and our business may be harmed. We invest substantial time and resources in building and maintaining our culture. Any failure to preserve our culture could negatively affect our future success, including our ability to retain and recruit personnel and to effectively pursue our strategic objectives.

Deterioration of general U.S. and global economic conditions could adversely affect our sales and operating results.

We are a global company with customers around the world. Global financial markets have experienced extreme disruption in recent years, including, among other factors, extreme volatility in security prices, limited ability to raise capital in public and private financial markets, severely diminished liquidity, credit unavailability and company rating

downgrades. These conditions have a negative impact on our prospects' and customers' ability to raise capital and operate their businesses. In addition, the weak and uncertain U.S. and global economic conditions could impair our customers' ability to pay for our products or services. These factors could delay our revenue recognition or otherwise adversely impact our business overall results and financial condition.

Periodic fluctuations in the U.S. dollar and other currencies, corporate profits, lower spending, the impact of conflicts throughout the world, terrorist acts, natural disasters, volatile energy costs, the outbreak of diseases and other geopolitical factors have had, and may continue to have, a negative impact on the U.S. and global economies. We are unable to predict the strength, duration or impact of current market conditions.

A significant or prolonged economic downturn may result in our customers or prospects reducing or postponing spending on the solutions we offer, and could result in substantial defaults or slowing of payments by our customers on our accounts receivable.

Table of Contents

There are a number of factors, other than our performance, that could affect the size, frequency and renewal rates of our customer contracts. For instance, if economic conditions weaken in any industry in which our customers or prospects are focused, our customers or prospects may reduce or postpone their spending significantly which may, in turn, lower the demand for our solutions and negatively affect our revenue and profitability. As a way of dealing with a challenging economic environment, customers may change their purchasing strategies, including, in some instances, increased negotiation of price, deciding to purchase one solution rather than multiple solutions or purchasing solutions for portions of their business. Customers could also delay their implementations or non-renew their SaaS, cloud, or maintenance contracts. Change in contract terms or the loss of, or any significant decline in business from, our customers may lead to a significant decline in our revenue and operating margins, particularly if we are unable to make corresponding reductions in our expenses in the event of any such loss or decline. Moreover, a significant change in the liquidity or financial position of our customers, or our customers' unwillingness or inability to otherwise make payments in a timely matter could have a material adverse effect on the collectability of our accounts receivable, liquidity, business and operating results.

We incurred indebtedness by issuing Senior Notes, and our debt repayment obligations may adversely affect our financial condition and cash flows from operations in the future.

In December 2014, we issued \$143.8 million aggregate principal amount of 2.0% convertible senior notes (the "Senior Notes") due December 1, 2019, unless earlier purchased or converted. Interest is payable semiannually in arrears on June 1 and December 1 of each year, commencing on June 1, 2015. Our indebtedness could have important consequences because it may impair our ability to obtain additional financing in the future for working capital, capital expenditures, acquisitions and general corporate or other purposes, and a portion of our cash flows from operations may have to be dedicated to repaying the principal beginning in 2019 or earlier if necessary.

Our ability to meet our debt obligations will depend on our future performance, which will be affected by financial, business, economic, regulatory and other factors. We cannot control many of these factors. Our future operations may not generate sufficient cash to enable us to repay our debt. If we fail to make a payment on our debt, we could be in default on such debt. If we are at any time unable to pay our indebtedness when due, we may be required to renegotiate the terms of the indebtedness, seek to refinance all or a portion of the indebtedness or obtain additional financing. There can be no assurance that, in the future, we will be able to successfully renegotiate such terms, that any such refinancing would be possible or that any additional financing could be obtained on terms that are favorable or acceptable to us.

Our projects accounted for on a percentage-of-completion method as well as fixed-fee arrangements are based on our use of estimates, which if inaccurate, could reduce our revenue and profitability.

Timing of our revenue recognition on our contractual arrangements varies based on the nature of the performance obligations in each contract and the associated contract terms. For projects accounted for on a percentage-of-completion method, the effort required to complete our implementation may be difficult to estimate, as the length of the implementation depends on the number of software solutions purchased and the scope and complexity of the customer's deployment requirements. Similarly, we may price implementation arrangements on a fixed-fee basis. If we underestimate the amount of effort required to implement our software solutions under these fixed-fee arrangements, our profitability could be reduced. Moreover, if the actual costs of completing the implementation exceed the agreed upon fixed price, we could incur a loss on the arrangement. If we are unable to accurately estimate the overall total man-days required to implement our software solutions, such inaccuracies could have a material effect on the timing of our revenue recognition, could adversely impact our quarterly or annual operating results.

Changes in accounting principles or standards, or in the way they are applied, could result in unfavorable accounting charges or effects and unexpected financial reporting fluctuations, and could adversely affect our reported operating results.

We prepare our consolidated financial statements in conformity with GAAP. These principles are subject to interpretation by the Securities and Exchange Commission ("SEC") and various bodies formed to interpret and create appropriate accounting principles and guidance. A change in existing principles, standards or guidance, in particular those related to revenue recognition, can have a significant effect on our reported results, may retroactively affect previously reported results, could cause unexpected financial reporting fluctuations, and may require us to make costly changes to our operational processes and accounting systems.

The Financial Accounting Standards Board ("FASB") is currently working with the International Accounting Standards Board ("IASB") to converge certain accounting principles and to facilitate more comparable financial reporting between companies that are required to follow GAAP and those that are required to follow International Financial Reporting Standards ("IFRS"). These projects may result in different accounting principles under GAAP, which may have a material impact on the way in which we report financial results in areas including, but not limited to, principles for recognizing revenue, lease accounting, and financial statement presentation. In connection with this initiative, the FASB issued a new accounting standard for revenue recognition in

Table of Contents

May 2014 – Accounting Standards Update ("ASU") 2014-09, "Revenue from Contracts with Customers (Topic 606)" – that supersedes nearly all existing GAAP revenue recognition guidance. Although we are currently in the process of evaluating the impact of ASU 2014-09 on our consolidated financial statements, it could change the way we account for certain sales transactions. Adoption of the standard could have a significant impact on our financial statements and may retroactively affect the accounting treatment of transactions completed before adoption.

In addition, the SEC may make a determination in the future regarding the incorporation of IFRS into the financial reporting system for U.S. companies. Changes in accounting principles from GAAP to IFRS, or to converged accounting principles, may have a material impact on our financial statements and may retroactively affect the accounting treatment of previously reported transactions.

We might not generate increased business from our customers, which could limit our revenue in the future.

We sell our software solutions to both new customers and existing customers. Many of our existing customers initially purchase our software solutions for a specific business segment or a specific geographic location within their organization and later purchase additional software solutions for the same or other business segments and geographic locations within their organization. These customers might not choose to make additional purchases of our software solutions or to expand their existing software solutions to other business segments. In addition, as we deploy new applications and features for our software solutions or introduce new software solutions, our current customers could choose not to purchase these new offerings. If we fail to generate additional business from our existing customers, our revenue could grow at a slower rate or even decrease.

If we fail to develop or acquire new functionality to enhance our existing software solutions, we may not be able to grow our business and it could be harmed.

The sales, pricing and revenue management software market is characterized by:

- rapid technological developments;
- newly emerging and changing customer requirements; and
- frequent solution introductions, updates and functional enhancements.

We must introduce enhancements to our existing software solutions in order to meet our business plan, maintain or improve our competitive position, keep pace with technological developments, satisfy increasing customer requirements and increase awareness of big data software for sales, pricing and revenue management generally and of our software solutions in particular. Any new functionality we develop may not be introduced in a timely manner and may not achieve market acceptance sufficient to generate material revenue. Furthermore, we believe that our competitors are heavily investing in research and development, and may develop and market new solutions that may compete with, and may reduce the demand for, our software solutions. We cannot provide assurance that we could be successful in developing or otherwise acquiring, marketing and licensing new functionality, or delivering updates and upgrades that meet changing industry standards and customer demands. In addition, we may experience difficulties that could delay or prevent the successful development, marketing and licensing of such functionality. If we are unable to develop or acquire new functionality, enhance our existing software solutions or adapt to changing industry requirements to meet market demand, we may not be able to grow our business and our revenue and operating results would be adversely affected.

In addition, because our software solutions are intended to operate on a variety of technology platforms, we must continue to modify and enhance our software solutions to keep pace with changes in these platforms, as well as develop and maintain relationships with platform providers. Any inability of our software solutions to operate effectively with existing or future platforms, or our inability to develop or maintain relationships with significant platform providers, could reduce the demand for our software solutions, result in customer dissatisfaction and limit our revenue.

Defects or errors in our software solutions could harm our reputation, impair our ability to sell our solutions and result in significant costs to us.

Our software solutions are complex and may contain undetected defects or errors. Several of our solutions have recently been developed and may therefore be more likely to contain undetected defects or errors. In addition, we frequently develop enhancements to our software solutions that may contain defects. We have not suffered significant harm from any defects or errors to date. We have in the past issued, and may in the future need to issue, corrective releases of our solutions to correct defects or errors, but we may not be able to detect and correct any such defects or errors before the final implementation of our software solutions. The occurrence of any defects or errors could result in:

17

Table of Contents

- delayed market acceptance and lost sales of our software solutions;
- delays in payment to us by customers;
- injury to our reputation;
- diversion of our resources;
- legal claims, including product liability claims, against us;
- increased maintenance and support expenses; and
- increased insurance costs.

Our agreements with our customers typically contain provisions designed to limit our liability for defects and errors in our software solutions and damages relating to such defects and errors, but these provisions may not be enforced by a court or otherwise effectively protect us from legal claims. Our liability insurance may not be adequate to cover all of the costs resulting from these legal claims. Moreover, we cannot provide assurance that our current liability insurance coverage would continue to be available on acceptable terms. In addition, the insurer may deny coverage on any future claims. The successful assertion against us of one or more large claims that exceeds available insurance coverage, or the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business and operating results. Furthermore, even if we prevail in any litigation, we are likely to incur substantial costs and our management's attention may be diverted from our operations.

Intellectual property litigation and infringement claims may cause us to incur significant expense or prevent us from selling our software solutions.

Our industry is characterized by the existence of a large number of patents, trademarks and copyrights, and by frequent litigation based on allegations of infringement or other violations of intellectual property rights. A third-party may assert that our technology violates its intellectual property rights, or we may become the subject of a material intellectual property dispute. Sales, pricing and revenue management solutions may become increasingly subject to infringement claims as the number of commercially available sales, pricing and revenue management solutions increases and the functionality of these solutions overlaps. In addition, changes in patent laws in the U.S. may affect the scope, strength and enforceability of our patent rights or the nature of proceedings which may be brought by us related to our patent rights. Future litigation may involve patent holding companies or other adverse patent owners who have no relevant product revenue and against whom our own potential patents may therefore provide little or no deterrence. Regardless of the merit of any particular claim that our technology violates the intellectual property rights of others, responding to such claims may require us to:

- incur substantial expenses and expend significant management efforts to defend such claims;
- pay damages, potentially including treble damages, if we are found to have willfully infringed such parties' patents or copyrights;
- cease making, licensing or using products that are alleged to incorporate the intellectual property of others;
- distract management and other key personnel from performing their duties for us;
- enter into potentially unfavorable royalty or license agreements in order to obtain the right to use necessary technologies; and
- expend additional development resources to redesign our solutions.

Any licenses required as a result of litigation under any patent may not be made available on commercially acceptable terms, if at all. In addition, some licenses may be nonexclusive, and therefore our competitors may have access to the same technology licensed to us. If we fail to obtain a required license or are unable to design around a patent, we may be unable to effectively develop or market our solutions, which could limit our ability to generate revenue or maintain profitability.

Contract terms generally obligate us to indemnify our customers for their use of the intellectual property associated with our software or for other third-party products that are incorporated into our solutions and that infringe the intellectual property rights of others. If we are unable to resolve our legal obligations by settling or paying an infringement claim or a related indemnification claim as described above, we may be required to compensate our customers under the contractual arrangement with such customers. Some of our intellectual property indemnification

obligations are contractually capped at a very high amount or not capped at all.

If we fail to protect our proprietary rights and intellectual property adequately, our business and prospects may be harmed.

18

Table of Contents

Our success could depend in part on our ability to protect our proprietary methodologies and intellectual property. We rely upon a combination of trade secrets, confidentiality policies, nondisclosure and other contractual arrangements, and patent, copyright and trademark laws to protect our intellectual property rights. We cannot, however, be certain that steps we take to protect our proprietary rights could prevent misappropriation of our intellectual property, or the development and marketing of similar and competing products and services by third parties.

We rely, in some circumstances, on trade secrets to protect our technology. Trade secrets, however, are difficult to protect. In addition, our trade secrets may otherwise become known or be independently discovered by competitors, and in such cases, we could not assert such trade secret rights against such parties. We seek to protect our proprietary technology and processes, in part, by confidentiality agreements with our employees, consultants, customers, scientific advisors and other contractors. These agreements may be breached, and we may not have adequate remedies for any such breach. To the extent that our employees, consultants or contractors use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions. The patent position of technology-oriented companies, including ours, is generally uncertain and involves complex legal and factual considerations. The standards that the U.S. Patent and Trademark Office use to grant patents are not always applied predictably or uniformly and can change. Accordingly, we do not know the degree of future protection for our proprietary rights or the breadth of claims allowed in any patents that may be issued to us or to others. Our patents may not contain claims sufficiently broad to protect us against third parties with similar technologies or products, or provide us with any competitive advantage. Moreover, our patents and any patent for which we have licensed or may license rights may be challenged, narrowed, invalidated or circumvented. If our patents are invalidated or otherwise limited, other companies may be better able to develop products that compete with ours, which could adversely affect our competitive business position, business prospects and financial condition. Any patent application we submit may not result in an issued patent. Patent applications in the U.S. are typically not published until at least 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 we were the first to invent the technologies claimed in any pending patent applications or that we were the first to file for patent protection. 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. As a result, we may not be able to obtain adequate patent protection.

In addition, despite our efforts to protect our proprietary rights, unauthorized parties may be able to obtain and use information that we regard as proprietary. The issuance of a patent does not guarantee that it is valid or enforceable. As such, even if we obtain patents, they may not be valid or enforceable against third parties. In addition, the issuance of a patent does not guarantee that we have a right to practice the patented invention. Third parties may have blocking patents that could be used to prevent us from marketing or practicing our potentially patented products. As a result, we may be required to obtain licenses under these third-party patents. If licenses are not available to us on acceptable terms, or at all, we may not be able to make and sell our software solutions and competitors would be more easily able to compete with us.

We use open source software in our solutions that may subject our software solutions to general release or require us to re-engineer our solutions, which may cause harm to our business.

We use open source software in our solutions and may use more open source software in the future. From time to time, there have been claims challenging the ownership of open source software against companies that incorporate open source software into their products. As a result, we could be subject to lawsuits by parties claiming ownership of what we believe to be open source software. Some open source licenses contain requirements that we make available source code for modifications or derivative works we create based upon the open source software and that we license such modifications or derivative works under the terms of a particular open source license or other license granting third parties certain rights of further use. If we combine our proprietary software solutions with open source software in a certain manner, we could, under certain of the open source licenses, be required to release the source code of our proprietary software solutions. In addition to risks related to license requirements, usage of open source software can

lead to greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties or controls on origin of the software. In addition, open source license terms may be ambiguous and many of the risks associated with usage of open source cannot be eliminated, and could, if not properly addressed, negatively affect our business. If we were found to have inappropriately used open source software, we may be required to seek licenses from third parties in order to continue offering our software, to re-engineer our solutions, to discontinue the sale of our solutions in the event re-engineering cannot be accomplished on a timely basis or take other remedial action that may divert resources away from our development efforts, any of which could adversely affect our business, operating results and financial condition.

Table of Contents

We utilize third-party software that we incorporate into our software solutions, and impaired relations with these third parties, defects in third-party software or a third party's inability or failure to enhance their software over time could adversely affect our operating performance and financial condition.

We incorporate and include third-party software into our software solutions. If our relations with any of these third parties are impaired, or if we are unable to obtain or develop a replacement for the software, our business could be harmed. The operation of our solutions could be impaired if errors occur in the third-party software that we utilize. It may be more difficult for us to correct any defects in third-party software because the software is not within our control. Accordingly, our business could be adversely affected in the event of any errors in this software. There can be no assurance that these third parties may continue to invest the appropriate levels of resources in their products and services to maintain and enhance the capabilities of their software.

Our international sales, and the growth of our international operations, subject us to risks that may adversely affect our operating results.

International operations are subject to risks associated with operating outside of the U.S. We may not be able to maintain or increase international market demand for our solutions. For the years ended December 31, 2016, 2015 and 2014, approximately 63%, 62% and 56% of our total revenue, respectively, was derived from outside the U.S. We have customers in over 55 countries, and have operations in the United Kingdom, France, Germany and Australia (through wholly-owned subsidiaries). The financial impact of our international operations to our overall business has been insignificant to date, but we expect our international operations to continue to grow.

To date, the majority of our sales have been denominated in U.S. dollars, although the majority of our expenses that we incur in our international operations are denominated in local currencies. To date, we have not used risk management techniques or "hedged" the risks associated with fluctuations in foreign currency exchange rates. Consequently, our results of operations and financial condition, including our revenue and operating margins, are subject to losses from fluctuations in foreign currency exchange rates.

Managing overseas growth could also require significant resources and management attention and may subject us to new or larger levels of regulatory, economic, foreign currency exchange, tax and political risks. Among the risks we believe are most likely to affect us with respect to our international sales and operations are:

- economic conditions in various parts of the world;
- differing labor and employment regulations, especially in the European Union, where labor laws are generally more advantageous to employees as compared to the U.S., including hourly wage and overtime regulations and employee termination restrictions or related costs;
- more stringent regulations relating to data privacy and the unauthorized use of, or access to, and retention of commercial and personal information, particularly in the EU, where the regulatory framework for privacy is actively evolving and is likely to remain uncertain for the foreseeable future;
- unexpected changes in regulatory requirements;
- less protection for intellectual property rights in some jurisdictions;
- new and different sources of competition;
- costs of compliance and penalties for noncompliance with foreign laws and laws applicable to companies doing business in foreign jurisdictions;
- multiple, conflicting and changing tax laws and regulations that may affect both our international and domestic tax liabilities and result in increased complexity and costs;
- the difficulty of managing and staffing our international operations and the increased travel, infrastructure and legal compliance costs associated with multiple international locations;
- difficulties in enforcing contracts and collecting accounts receivable, especially in developing countries; and
- tariffs and trade barriers, import and export controls and other regulatory or contractual limitations on our ability to sell or develop our solutions in certain foreign markets.

If we continue to expand our business globally, our success could depend, in large part, on our ability to anticipate and effectively manage these and other risks associated with our international operations. For example, any inability to adequately address privacy concerns, even if unfounded, or to comply with more complex and numerous privacy or data protection laws, regulations and privacy standards, could result in additional cost and liability to us, damage our reputation, inhibit sales of our

20

Table of Contents

solutions and harm our business. Our failure to manage any of these risks successfully could harm our international operations and reduce our international sales, adversely affecting our business, operating results and financial condition.

Catastrophic events may disrupt our operations.

Our headquarters are located in Houston, Texas, from which we base our operations, and we conduct business in other domestic and international locations. We also rely on our network and third-party infrastructure and enterprise applications for our sales, marketing, development, operational support, and hosted services. Although we have contingency and business continuity plans in effect for natural disasters or other catastrophic events (including terrorist attacks, power loss, telecommunications failure, cyber-attacks and hurricanes), these events could disrupt our operations. Even though we carry business interruption insurance and typically have provisions in our contracts that protect us in certain events, we might suffer losses as a result of business interruptions that exceed the coverage available under our insurance policies or for which we do not have coverage. Any natural disaster or other catastrophic event could create a negative perception in the marketplace, delay our product innovations, or lead to lengthy interruptions in our services, breaches of data security, and losses of critical data, all of which could have an adverse effect on our operating results.

We incur significant costs as a result of operating as a public company, and our management is required to devote substantial time to compliance initiatives.

As a public company, we incur significant legal, accounting and other expenses. The Sarbanes-Oxley Act of 2002 ("Sarbanes-Oxley") and the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), and rules currently proposed or subsequently implemented by the SEC and NYSE impose heightened requirements on public companies. Our management and other personnel devote a substantial amount of time to these compliance initiatives. We may also need to hire additional personnel to support our compliance requirements. Moreover, these rules and regulations increase our legal and financial costs and make some activities more time-consuming.

If we fail to continue to maintain internal controls over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act, our market price may be adversely affected.

Section 404 of the Sarbanes-Oxley Act requires our management to assess the effectiveness of our internal control over financial reporting and to provide a report by our registered independent public accounting firm addressing the effectiveness of our internal control over financial reporting. If we are unable to continue to assert that our internal controls over financial reporting are effective, or if a material weakness is identified in our internal controls over financial reporting, or if we are unable to implement internal controls over financial reporting for our acquisitions, our financial results may be adversely affected and we could lose investor confidence in the reliability of our financial statements. Accordingly failure to maintain effective controls over financial reporting may have an adverse effect on the market price of our common stock.

Risks relating to ownership of our common stock and the Senior Notes

Market volatility may affect our stock price and the value of your investment.

The market price for our common stock, and the software industry generally, has been and is likely to continue to be volatile. Volatility could make it difficult to trade shares of our common stock at predictable prices or times.

Many factors could cause the market price of our common stock to be volatile, including the following:

- variations in our quarterly or annual operating results;
- decreases in market valuations of comparable companies;
- fluctuations in stock market prices and volumes;
- decreases in financial estimates by equity research analysts;
- announcements by our competitors of significant contracts, new solutions or enhancements, acquisitions, distribution partnerships, joint ventures or capital commitments;
- departure of key personnel;
- changes in governmental regulations and standards affecting the software industry and our software solutions;

sales of common stock or other securities by us in the future;

damages, settlements, legal fees and other costs related to litigation, claims and other contingencies;

Table of Contents

deterioration of the general U.S. and global economic condition; and
other risks described elsewhere in this section.

In the past, securities class action litigation often has been initiated against a company following a period of volatility in the market price of the company's securities. If class action litigation is initiated against us, we may incur substantial costs and our management's attention could be diverted from our operations. All of these factors could cause the market price of our stock to decline, and you may lose some or all of your investment.

Historically, shares of our common stock have been relatively illiquid and trading of our shares could adversely affect the market price of our common stock.

Our common stock has historically been thinly traded, and we have a relatively small public float. Our common stock may be less liquid than the stock of companies with a broader public ownership. In addition, sales of a large volume of our common stock by us or our current or future stockholders, or the perception that sales could occur, may also have a significant impact on its trading price.

Our directors, executive officers, and certain significant stockholders hold a significant portion of our outstanding shares.

Our directors and executive officers collectively control approximately 16% of our issued and outstanding common shares, and together with certain significant stockholders, including investment funds associated with Brown Capital Management, Riverbridge Partners, Champlain Investment Partners, Morgan Stanley, BlackRock, D.F. Dent & Company, and Cadian Capital Management, control approximately 67% of our issued and outstanding common shares. As a result, these stockholders could influence matters requiring stockholder approval in ways that may not align with your interest as a stockholder, including the election of directors and approval of significant corporate transactions. This concentration of ownership may have the effect of delaying or preventing a change in control of us even if such change of control would be beneficial to you as a stockholder, and could affect the market price of our shares if there is a sale by this group of stockholders.

If equity research analysts cease to publish research or reports about us or if they issue unfavorable commentary or downgrade our common stock, the price of our common stock could decline.

The trading market for our common stock relies in part on the research and reports that equity research analysts publish about us and our business. The price of our stock could decline if one or more equity research analysts downgrade our stock or if those analysts issue other unfavorable commentary or cease publishing reports about our business.

Anti-takeover provisions in our Certificate of Incorporation and Bylaws and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Our Certificate of Incorporation and Bylaws and Section 203 of the Delaware General Corporation Law contain provisions that might enable our management to resist a takeover of our company. These provisions include the following:

- the division of our board of directors into three classes to be elected on a staggered basis, one class each year;
- a prohibition on actions by written consent of our stockholders;
- the elimination of the right of stockholders to call a special meeting of stockholders;
- a requirement that stockholders provide advance notice of any stockholder nominations of directors or any proposal of new business to be considered at any meeting of stockholders;
- a requirement that a supermajority vote be obtained to amend or repeal certain provisions of our certificate of incorporation; and
- the ability of our board of directors to issue preferred stock without stockholder approval.

In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which limits the ability of stockholders owning in excess of 15% of our outstanding voting stock to merge or combine with us. Although we believe these provisions collectively provide for an opportunity to obtain higher bids by requiring potential acquirors to negotiate with our board of directors, they would apply even if an offer were considered beneficial by some stockholders. In addition, 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.

Table of Contents

We do not intend to pay dividends on our common stock in the foreseeable future.

We do not currently anticipate paying any cash dividends on our common stock in the foreseeable future. We currently anticipate that we will retain all of our available cash, if any, for use as working capital, repayment of debt and for other general corporate purposes. Any payment of future dividends would be at the discretion of our board of directors and would depend upon, among other things, our earnings, financial condition, capital requirements, level of indebtedness, statutory and contractual restrictions applying to the payment of dividends and other considerations that the board of directors deems relevant.

The accounting method for convertible debt securities that may be settled in cash, such as the Senior Notes, could have a material effect on our reported financial results.

In May 2008, FASB, issued FASB Staff Position No. APB 14-1, Accounting for Convertible Debt Instruments That May Be Settled in Cash Upon Conversion (Including Partial Cash Settlement), which has subsequently been codified as Accounting Standards Codification 470-20, Debt with Conversion and Other Options, which we refer to as ASC 470-20. Under ASC 470-20, an entity must separately account for the liability and equity components of the convertible debt instruments (such as the Senior Notes) that may be settled entirely or partially in cash upon conversion in a manner that reflects the issuer's economic interest cost. The effect of ASC 470-20 on the accounting for the Senior Notes is that the equity component is required to be included in the additional paid-in capital section of stockholders' equity on our consolidated balance sheet and the value of the equity component would be treated as original issue discount for purposes of accounting for the debt component of the Senior Notes. As a result, we will be required to record a greater amount of non-cash interest expense in current periods presented as a result of the amortization of the discounted carrying value of the Senior Notes to their face amount over the term of the Senior Notes. We will report lower net income in our financial results because ASC 470-20 will require interest to include both the current period's amortization of the debt discount and the instrument's coupon interest, which could adversely affect our reported or future financial results, the trading price of our common stock and the trading price of the Senior Notes. In addition, under certain circumstances, convertible debt instruments (such as the Senior Notes) that may be settled entirely or partly in cash are currently accounted for utilizing the treasury stock method, the effect of which is that any shares issuable upon conversion of the Senior Notes are not included in the calculation of diluted earnings per share except to the extent that the conversion value of the Senior Notes exceeds their principal amount. Under the treasury stock method, for diluted earnings per share purposes, the transaction is accounted for as if the number of shares of common stock that would be necessary to settle such excess, if we elected to settle such excess in shares, are issued. We cannot be sure that the accounting standards in the future will continue to permit the use of the treasury stock method. If we are unable to use the treasury stock method in accounting for the shares issuable upon conversion of the Senior Notes, then our diluted earnings per share would be adversely affected.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our headquarters are located in Houston, Texas, where we lease approximately 98,000 square feet of office space. As of December 31, 2016, we also lease smaller regional offices in London, England; Dublin, Ireland; Paris, France; Toulouse, France; Munich, Germany; Frankfurt, Germany; Sydney, Australia; San Francisco, California; Skokie, Illinois; and Austin, Texas. We believe our existing facilities are sufficient for our current needs. We may add new facilities and expand our existing facilities as we add employees, and we believe that suitable additional or substitute space will be available as needed to accommodate any such expansion of our operations.

Item 3. Legal Proceedings

In the ordinary course of our business, we regularly become involved in contract and other negotiations and, in more limited circumstances, become involved in legal proceedings, claims and litigation. The outcomes of these matters are inherently unpredictable. We are not currently involved in any outstanding litigation that we believe, individually or in

the aggregate, will have a material adverse effect on our business, results of operations or financial condition.

Item 4. Mine Safety Disclosures

Not applicable.

Table of Contents

Part II

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

Market information, holders and dividends

Our common stock is listed on the NYSE under the symbol "PRO". The following table sets forth the high and low prices for shares of our common stock, as reported by the NYSE for the periods indicated.

	Price Range of Common Stock	
	Low	High
Year ended December 31, 2016		
First Quarter	\$9.28	\$22.20
Second Quarter	\$10.74	\$17.53
Third Quarter	\$17.06	\$22.79
Fourth Quarter	\$20.76	\$25.55
Year ended December 31, 2015		
First Quarter	\$23.01	\$27.12
Second Quarter	\$18.03	\$27.15
Third Quarter	\$20.46	\$24.58
Fourth Quarter	\$20.60	\$25.11

On February 9, 2017 there were 59 stockholders of record of our common stock. Since 2007, we have not declared or paid any dividends on our common stock. We currently expect to retain all remaining available funds and any future earnings for use in the operation and development of our business. Accordingly, we do not anticipate declaring or paying cash dividends on our common stock in the foreseeable future.

Performance graph

The following performance graph and related information shall not be deemed "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act or Exchange Act, except to the extent that we specifically incorporate it by reference into such filing.

The graph below presents a five-year comparison of the relative investment performance of our common stock, the Standard & Poor's 500 Stock Index ("S&P 500"), and the Russell 2000 Index for the period commencing on December 31, 2011, and ending December 31, 2016. The graph is presented pursuant to the SEC rules and is not meant to be an indication of our future performance.

Table of Contents

The graph assumes that \$100 was invested on December 31, 2011, in our common stock, the S&P 500 and the (1)Russell 2000 Index and further assumes all dividends were reinvested. No cash dividends have been paid on our common stock for the periods presented above.

	12/31/2012	12/31/2013	12/31/2014	12/31/2015	12/31/2016
PRO	\$ 122.92	\$ 268.15	\$ 184.68	\$ 154.84	\$ 144.62
S&P 500	\$ 113.41	\$ 146.98	\$ 163.72	\$ 162.53	\$ 178.02
Russell 2000 Index	\$ 114.63	\$ 157.05	\$ 162.60	\$ 153.31	\$ 183.17

Issuer purchase of equity securities

On August 25, 2008, we announced that the Board of Directors authorized a stock repurchase program for the purchase of up to \$15.0 million of our common stock. Under the board-approved repurchase program, share purchases may be made from time to time in the open market or through privately negotiated transactions depending on market conditions, share price, trading volume and other factors, and such purchases, if any, will be made in accordance with applicable insider trading and other securities laws and regulations. These repurchases may be commenced or suspended at any time or from time to time without prior notice.

During 2016, we did not make any purchases of our common stock under this program. As of December 31, 2016, \$10.0 million remains available under the stock repurchase program.

Recent sales of unregistered securities

There were no unregistered sales of equity securities for the year ended December 31, 2016.

Table of Contents

Item 6. Selected financial data

The following selected consolidated financial data presented under the captions "Selected consolidated statement of operations data" and "Selected consolidated balance sheet data" are derived from our Consolidated Financial Statements. The selected consolidated financial data set forth below should be read in conjunction with, and is qualified by reference to, "Management's Discussion and Analysis of Financial Condition and Result of Operations" and our Consolidated Financial Statements and the related Notes included elsewhere in this report. As presented in the table, amounts are in thousands (except per share data).

	Year Ended December 31,				
	2016	2015	2014	2013	2012
Selected consolidated statement of operations data:					
Total revenue	\$153,276	\$168,246	\$185,829	\$144,837	\$117,791
Gross profit	89,923	106,836	127,743	101,702	84,006
(Loss) Income from operations	(65,398)	(55,497)	(22,407)	3,538	8,180
Net (loss) income	(75,225)	(65,811)	(37,551)	3,446	4,966
Net (loss) income attributable to common stockholders	\$(75,225)	\$(65,811)	\$(36,644)	\$3,446	\$4,966
Net (loss) income attributable to common stockholders per share:					
Basic	(2.47)	(2.23)	(1.27)	0.12	0.18
Diluted	(2.47)	(2.23)	(1.27)	0.11	0.17
Weighted average number of shares:					
Basic	30,395	29,578	28,915	28,004	27,366
Diluted	30,395	29,578	28,915	30,114	28,420
Selected consolidated balance sheet data:					
Cash and cash equivalents, unrestricted	\$118,039	\$161,770	\$161,019	\$44,688	\$83,558
Working capital	76,936	124,571	151,903	72,127	72,950
Total assets	227,654	263,211	300,125	179,828	146,479
Long-term obligations	134,327	121,443	112,740	3,523	3,334
Total stockholders' equity	\$(3,394)	\$55,414	\$98,999	\$111,303	\$88,669

Table of Contents

Item 7. Management's discussion and analysis of financial condition and results of operations
Overview

PROS is a revenue and profit realization company that helps customers realize their potential through the blend of simplicity and data science. PROS offers solutions to help accelerate sales, formulate winning pricing strategies and align product, demand and availability. PROS revenue and profit realization solutions are designed to allow customers to experience meaningful revenue growth, sustained profitability and modernized business processes.

2016 Executive Summary

In 2016, we reached several key milestones in our cloud transformation efforts while continuing to enable our customers to leverage our data science driven solutions to help them compete in modern commerce. In the second quarter of 2015, we began the shift from primarily offering perpetual licenses of our solutions to a subscription based solutions and made substantial progress in 2016, including the following notable items:

- subscription revenue increased 31% in 2016 over 2015;
- our recurring revenue, which consists of maintenance and subscription revenue, grew by 15% over 2015;
- annualized Recurring Revenue of \$122.2 million as of December 31, 2016, up 24% year-over-year;
- we expanded our global data center footprint from four to eleven, including the first Microsoft Azure deployment of PROS Real-Time Dynamic Pricing™ solution for airlines; and
- we introduced new features and innovations such as data science driven cross-sell recommendations, opportunity detection, offer personalization, and cloud analytics.

Annualized Recurring Revenue ("ARR") is one of our key performance metrics to assess the health and trajectory of our overall business. ARR should be viewed independently of revenue, deferred revenue and any other GAAP measure as ARR is a performance metric and is not intended to be combined with any of these items. ARR is defined as the annualized contracted recurring revenue from subscription and maintenance contracts. Contracted revenue from perpetual licenses, term licenses and service agreements are not included within our ARR metric. Total ARR as of December 31, 2016 was \$122.2 million, up from \$98.2 million as of December 31, 2015