UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

FORM 10-K

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

For the fiscal year ended December 31, 2019

OR

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

☐

For the transition period from ______ to ______

Commission file number 0-24531

CoStar Group, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**52-2091509**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

1331 L Street, NW
Washington, DC 20005
(Address of principal executive offices) (zip code)

(202) 346-6500
(Registrant's telephone number, including area code)

(877) 739-0486
(Registrant's facsimile number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock ($0.01 par value)	CSGP	Nasdaq Global Select Market

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 x No o

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

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 x No o

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

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

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

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

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

As of June 28, 2019, the aggregate market value of the common stock (based upon the closing price of the stock on the Nasdaq Global Select Market) of the registrant held by non-affiliates was approximately $20 billion. As of February 21, 2020, 36,644,734 shares of common stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement, which is expected to be filed with the Securities and Exchange Commission within 120 days after the end of the registrant's fiscal year ended December 31, 2019, are incorporated by reference into Part III of this Report.

TABLE OF CONTENTS

PART I

Item 1. Business

In this report, the words "we," "our," "us," "CoStar" or the "Company" refer to CoStar Group, Inc. and its direct and indirect wholly owned subsidiaries. This report also refers to our websites, but information contained on those sites is not part of this report.

CoStar Group, Inc., a Delaware corporation, founded in 1987, is the number one provider of information, analytics and online marketplaces to the commercial real estate industry in the United States ("U.S.") and United Kingdom ("U.K.") based on the fact that we offer the most comprehensive commercial real estate database available; have the largest research department in the industry; own and operate leading online marketplaces for commercial real estate and apartment listings in the U.S. based on the numbers of unique visitors and site visits per month; and provide more information, analytics and marketing services than any of our competitors. We have created and compiled a standardized platform of information, analytics and online marketplace services where industry professionals and consumers of commercial real estate, including apartments, and the related business communities, can continuously interact and facilitate transactions by efficiently accessing and exchanging accurate and standardized real estate-related information. Our service offerings span all commercial property types, including office, retail, industrial, multifamily, commercial land, mixed-use and hospitality. We manage our business geographically in two operating segments, with our primary areas of measurement and decision-making being North America, which includes the U.S. and Canada, and International, which primarily includes Europe, Asia-Pacific and Latin America. On October 22, 2019, we acquired STR, Inc. and STR Global, Ltd. (together with STR, Inc., "STR"), which provides benchmarking and analytics for the hospitality industry. See Note 4 to the accompanying Notes to the Consolidated Financial Statements included in Part IV of this Annual Report on Form 10-K for further discussion of this acquisition.

Strategy

Our strategy is to provide industry professionals and consumers of commercial real estate and apartments with critical knowledge to explore and complete transactions by offering the most comprehensive, timely and standardized information on commercial real estate and apartments and the right tools to be able to effectively utilize that information. Over time, we have expanded, and we continue to expand, our services for commercial real estate information, analytics and online marketplaces in an effort to continue to meet the needs of the industry as it grows and evolves.

Our standardized platform includes the most comprehensive proprietary database in the industry; the largest research department in the industry; proprietary data collection, information management and quality control systems; a large in-house product development team; a broad suite of web-based information, analytics and online marketplace services; a large team of analysts and economists; and a large, diverse base of clients. Our database has been developed and enhanced for more than 30 years by a research department that makes thousands of daily database updates. In addition to our internal efforts to grow the database, we have obtained and assimilated a significant number of proprietary databases. Our comprehensive commercial real estate database powers our information services, sources data used in our analytic services and provides content for most of our online marketplace services. Our ability to utilize the same commercial real estate information across our standardized platform creates efficiencies in operations and improves data quality for our customers.

We deliver our comprehensive commercial real estate information content to our U.S. and certain customers in Europe primarily via an integrated suite of online service offerings that includes information about space available for-lease, comparable sales information, information about properties for-sale, tenant information, Internet marketing services, analytical capabilities, information for clients' websites, information about industry professionals and their business relationships, data integration and industry news. We also operate complementary online marketplaces for commercial real estate listings and apartment rentals. We strive to cross-sell our services to our customers in order to best suit their needs.

Information about our revenues, long-lived assets and total assets derived from and located in foreign countries is included in Notes 2, 3 and 14 of the Notes to Consolidated Financial Statements included in this Annual Report on Form 10-K. Revenues; net income (loss) before interest and other income (expense), income taxes, depreciation and amortization ("EBITDA"); and total assets and liabilities for each of our segments are set forth in Notes 3 and 14 to our consolidated financial statements. Information about risks associated with our foreign operations is included in "Item 1A. Risk Factors" and "Item 7A. Quantitative and Qualitative Disclosures about Market Risk" in this Annual Report on Form 10-K.

We have five flagship brands - CoStar®, LoopNet®, Apartments.com™, BizBuySell® and LandsofAmerica™, which are accessible via the Internet and through our mobile applications. Our subscription-based services consist primarily of CoStar Suite® services, which include information, analytics and online marketplace services offered to the commercial real estate industry and related professionals. CoStar Suite® is sold as a platform of service offerings consisting of CoStar Property Professional®, CoStar

COMPS Professional® and CoStar Tenant®, and is our largest service offering in our North America and International operating segments.

Our LoopNet subscription-based, online marketplace enables commercial property owners, landlords, and brokers to list properties for-sale or for-lease and to submit detailed information about property listings. Commercial real estate agents, buyers and tenants use LoopNet extensively to search for available property listings that meet their criteria.

Apartments.com™ is part of our network of apartment marketing sites, which also includes ApartmentFinder.com™, ForRent.com®, ApartmentHomeLiving.com™, WestsideRentals.com®, AFTER55.com®, CorporateHousing.com™, ForRentUniversity.com®, Apartamentos.com™, which is our apartment-listing site offered exclusively in Spanish, and OffCampusPartners.com, which we acquired on June 12, 2019, and which provides student housing marketplace content and powers off campus housing sites for many universities across the U.S. Our apartment marketing network of subscription-based services offers renters a searchable database of apartment listings and provides property owners, professional property management companies and landlords with an advertising destination. Our apartment marketing network draws on and leverages CoStar’s multifamily database, which contains detailed information on apartment properties and is designed to meet renter preferences and demands, in order to drive traffic to those sites and attract advertisers who prefer to advertise on heavily trafficked apartment websites. Our network of apartment marketing sites provides a comprehensive selection of rentals, information on actual availabilities and rents, and in-depth data on neighborhoods, including restaurants, nightlife, history, schools and other facts important to renters. To help renters find the information that meets their needs, we have sites that also offer innovative search tools such as the Polygon™ Search tool, which allow renters to specifically define the area in which they want to find an apartment and Plan Commute tools, which allow renters to search property listings that meet their transportation needs. We also offer complementary services to the apartment industry, including the ability for renters to apply for rentals online, and for landlords to receive applications, screen tenants, and process rental payments and lease renewals.

Our BizBuySell services, which include BizQuest® and FindaFranchise, provide an online marketplace for businesses and franchises for-sale. Our LandsofAmerica services, which include LandAndFarm and LandWatch®, provide an online marketplace for rural lands for-sale and are also accessible via our Land.com domain.

We provide other services that complement those offered through our five flagship brands. These include real estate and lease management solutions, lease administration and abstraction services, through our CoStar Real Estate Manager service offerings; market research, consulting and analysis, portfolio and debt analysis, and management and reporting capabilities, through our CoStar Investment Analysis and CoStar Risk Analytics service offerings; and benchmarking and analytics for the hospitality industry through our STR service offerings.

Our services are typically distributed to our clients under subscription-based license agreements that renew automatically, a majority of which have a term of at least one year. Upon renewal, many of the subscription contract rates may change in accordance with contract provisions or as a result of contract renegotiations. To encourage clients to use our services regularly, we generally charge a fixed monthly amount for our subscription-based services rather than charging fees based on actual system usage or number of paid clicks. Depending on the type of service, contract rates are generally based on the number of sites, number of users, organization size, the client's business focus, geography, the number and types of services to which a client subscribes, the number of properties a client advertises and the prominence and placement of a client's advertised properties in the search results. Our subscription clients generally pay contract fees on a monthly basis, but in some cases may pay us on a quarterly or annual basis. We generally see higher sales of Apartments.com listing services during the peak summer rental season and higher CoStar suite sales towards the end of the year, however sales fluctuate from year-to-year and revenue is not generally seasonal because our services are typically sold on a subscription basis.

Expansion and Growth

Acquisitions

We have expanded and continue to expand the coverage and depth of our information, analytics and online marketplace services. In addition to organic growth, we have grown our business through strategic acquisitions. Most recently, on June 12, 2019, we acquired Off Campus Partners, LLC (“OCP”), a provider of student housing marketplace content and technology to U.S. universities, and on October 22, 2019, we acquired STR, a global provider of benchmarking and analytics for the hospitality industry. We continue to integrate our recent acquisitions and the services they offer into our CoStar network. See Note 4 to the accompanying Notes to the Consolidated Financial Statements included in Part IV of this Annual Report on Form 10-K for further discussion of these acquisitions.

On February 11, 2020, we agreed to acquire, for $588 million in cash, all the equity interests of RentPath, as reorganized following an internal restructuring pursuant to and under the joint chapter 11 plan of reorganization of RentPath and certain of its subsidiaries. Closing of the acquisition is subject to customary closing conditions, including the expiration or termination of any applicable waiting period under applicable antitrust laws and approval by the bankruptcy court. RentPath is a provider of digital marketing solutions for rental properties through a network of Internet listing websites, including Rent.com, ApartmentsGuide.com, Rentals.com and LiveLovely.com. See Note 19 to the accompanying Notes to the Consolidated Financial Statements included in Part IV of this Annual Report on Form 10-K for further discussion of this acquisition.

<u>Development, Investments and Expansion</u>

We are committed to supporting, improving and enhancing our information, analytics and online marketplace solutions, including expanding and improving our offerings for property owners, property managers and renters. We expect to continue our software development efforts to improve existing services, introduce new services, integrate and cross-sell services, and expand and develop supporting technologies for our research, sales and marketing organizations.

We evaluate potential changes to our service offerings from time to time in order to better align the services we offer with customers' needs. Further, in some cases, when integrating and coordinating our services and assessing industry and client needs, we may decide to combine, shift focus from, de-emphasize, phase out, or eliminate a service that, among other things, overlaps or is redundant with other services we offer. In the event that we eliminate or phase out particular service offerings, we may experience reduced revenues and earnings. The decision to eliminate or phase out a service offering may also ultimately result in increased revenues and earnings from sales of other services we offer in lieu of the eliminated or phased out services. However, we cannot predict with certainty the amount or timing of any reductions in revenues and earnings or subsequent increases in revenues and earnings, if any, resulting from the elimination or phasing out of any service offering.

On November 18, 2018, we acquired Cozy Services, Ltd. ("Cozy"), a leading provider of online rental solutions offering a broad spectrum of services to both landlords and tenants. We continue to integrate Cozy's online rental and payments technology into the Apartments.com platform, creating an integrated online rental solution. The new platform allows renters to apply for-leases online, for landlords to run tenant credit and background checks and make and process online payments. In 2019, we completed the integration of Realla Ltd. ("Realla"), the operator of a commercial property listings and data management platform that we acquired in October 2018, with our CoStar UK operations. A single point of data entry now allows our clients to display their commercial real estate listings through the CoStar Suite service offering and to make them visible to prospective tenants and investors through Realla's marketing portal. Over time, we plan to integrate STR data and services with CoStar Suite to create new products and services for our customers. We plan to drive international expansion, in part, through STR's global operations and to apply STR's benchmarking expertise to other commercial real estate segments served by CoStar.

We believe that our integration efforts and continued investments in our services, including acquisitions and expansion of our existing service offerings, have created a platform for long-term revenue growth. We expect these investments to result in further penetration of our subscription-based services and the successful cross-selling of our services to customers in existing markets.

We have invested in the expansion and development of our field sales force to support the growth and expansion of our company and our service offerings, and plan to continue to invest in, evaluate and strategically position our sales force as the Company continues to develop and grow. Specifically, we continue to invest in marketing our services, as well as in our research operations to support continued growth of our information and analytics offerings to meet the growing content needs of our clients. We plan to significantly increase our investment in Apartments.com marketing in 2020, including search engine marketing and TV and digital video advertising. While we believe the investments we make in our business create a platform for growth, those investments may reduce our profitability and adversely affect our near-term financial position.

Industry Overview

The market for commercial real estate information and analysis is vast based on the variety, volume and value of transactions related to commercial real estate. Each transaction has multiple participants and multiple information requirements, and in order to facilitate transactions, industry participants must have extensive, accurate and current information and analysis. Members of the commercial real estate and related business community require daily access to current data such as space availability, properties for-sale, rental units available, rental rates, vacancy rates, tenant movements, sales comparables, supply, new construction, absorption rates and other important market developments to carry out their businesses effectively. Market research (including historical and forecast conditions) and applied analytics are instrumental to the success of commercial real estate industry participants. There is a strong need for an efficient marketplace, where commercial real estate professionals can exchange information, evaluate opportunities using standardized data and interpretive analyses, and interact with each other on a continuous basis.

A large number of parties involved in the commercial real estate and related business community make use of the services we provide in order to obtain information they need to conduct their businesses, including:

- Sales and leasing brokers
- Property owners
- Property managers
- Design and construction professionals
- Real estate developers
- Real estate investment trust managers
- Investment and commercial bankers
- Mortgage bankers
- Mortgage brokers
- Retailers
- Hospitality owners
- Government agencies
- Mortgage-backed security issuers
- Appraisers
- Pension fund managers
- Reporters
- Tenant vendors
- Building services vendors
- Communications providers
- Insurance companies' managers
- Institutional advisors
- Investors and asset managers

The commercial real estate and related business community historically operated in an inefficient marketplace because of the fragmented approach to gathering and exchanging information within the marketplace. Various organizations, including hundreds of brokerage firms, directory publishers and local research companies, collected data on specific markets and developed software to analyze the information they independently gathered. This highly fragmented methodology resulted in duplication of efforts in the collection and analysis of information, excessive internal cost and the creation of non-standardized data containing varying degrees of accuracy and comprehensiveness, resulting in a formidable information gap.

The creation and maintenance of a standardized information platform for commercial real estate requires infrastructure including a standardized database, accurate and comprehensive research capabilities, experienced analysts, easy to use technology and intensive participant interaction. By combining our extensive database, researchers, our experienced team of analysts and economists, technological expertise and broad customer base, we believe that we have created such a platform.

The apartment rental advertising industry serves property managers and owners who are tasked with finding renters to occupy vacant apartments, as well as renters who are searching for their next home. Property managers have several options at their disposal, including their own websites, drive-by and outdoor advertising, traditional classified ads, free online listing services, search engine marketing and Internet listings services ("ILS"), like Apartments.com and the network of apartment listing websites we own and operate. Many apartment ILS websites feature only the rental availabilities that larger property owners pay to advertise, resulting in a poor user experience in which the renter's search criteria return either limited or no results, irrelevant results or stale results that do not represent actual availabilities.

We believe that consumers expect accurate, actionable and comprehensive apartment rental information. Our apartment ILS websites include renter-focused features like the ability to filter search results according to various criteria (e.g., commute time to work); professional images of the properties, including immersive videos and 3-D interactive models; custom neighborhood profiles; and tenant reviews. Our network of apartment listing websites draws on our multifamily database and includes researched and verified information. We proactively gather information on available rentals to improve the accuracy of the listings on our apartment ILS websites, including real time unit-level availability, current pricing, and rent specials. We have continually invested in our network to improve the features and services offered to property managers and website users. Recent additions include: dynamic lead forms that provide more information about prospective residents, a reporting suite that provides customers with rent comparables, making rent trends information publicly available and free digital ad retargeting, and integrated online rental solutions, including lease applications, and tenant credit and background checks. We believe that we have created and maintain easily searchable apartment ILS websites with a comprehensive selection of rentals, information on actual rental availabilities and rents, and in-depth data on neighborhoods, as well as easy to use and actionable tools for the rental process.

CoStar's Comprehensive Database

CoStar has spent more than 30 years building and acquiring databases of commercial real estate information, which includes information on leasing, sales, comparable sales, tenants, and demand statistics, as well as digital images. This highly complex database is comprised of hundreds of data fields, tracking such categories as location, site and zoning information, building characteristics, space and unit availability, tax assessments, ownership, sales and lease comparables, space requirements, number of retail stores, number of listings, mortgage and deed information, for-sale and for-lease listings, income and expense histories, tenant names, lease expirations, contact information, historical trends, demographic information and retail sales per square foot. The database also includes building photographs, aerial photographs, 3D virtual tours, plat maps and floor plans.

CoStar Research

Research Department. Our research professionals undergo an extensive training program so that we can maintain consistent research methods and processes throughout our research department. Our researchers collect and analyze commercial real estate information through phone calls, e-mails and Internet updates, in addition to field inspections, public records review, news monitoring and third-party data feeds. We have also set up direct feeds from larger apartment sites and have put in place an automated system that compiles information sourced from the Internet in order to provide the most up-to-date information on rental availabilities.

Our researchers are responsible for maintaining the accuracy and reliability of our database information. As part of their update process, researchers develop cooperative relationships with industry professionals that allow them to gather useful information. Because of the importance commercial real estate professionals place on our data and our prominent position in the industry, many of these professionals routinely take the initiative and proactively report available space and transactions through our on-line tool, Marketing Center, or directly to our researchers.

CoStar's field research effort includes physical inspection of properties in order to research new availabilities, find additional property inventory, new construction, collect tenant information, verify existing information, photograph properties and create high quality videos of interior spaces (including walk-through videos and 3D virtual tours), amenities and exterior features of properties. CoStar utilizes high-tech, field research vehicles primarily within North America and Europe. A significant majority of these vehicles are customized, energy efficient hybrid cars that are equipped with computers, Global Positioning System tracking software, high resolution digital cameras and handheld laser instruments to precisely measure buildings and geo-code and position them on digital maps. Each CoStar vehicle uses wireless technology to track and transmit field data. A typical site inspection consists of photographing the building, measuring the building, geo-coding the building, capturing “for-sale” or “for-lease” sign information, counting parking spaces, assessing property condition and construction, and gathering tenant information. Field researchers also canvass properties, collecting tenant data suite-by-suite. CoStar also utilizes a low-flying airplane and a fleet of drones to conduct aerial research of commercial real estate. We place researchers on the low-flying aircraft to scout additional commercial developments and take aerial photographs and videos. Our U.S. drone operators are Federal Aviation Administration certified and trained to capture aerial photographs and videos of commercial real estate. Our drone operators in the U.K. and Canada are certified and trained to Civil Aviation Authority standards with a permission for commercial operations pending.

Data and Image Providers. We license a small portion of our data and images from public record providers and third-party data sources. Licensing agreements with these entities allow us to use a variety of commercial real estate information, including property ownership, tenant information, demographic information, maps, aerial photographs and 3D virtual apartment tours of apartment communities, all of which enhance various CoStar services. These license agreements generally grant us a non-exclusive license to use the data and images in the creation and supplementation of our information, analytics and online marketplaces.

Management and Quality Control Systems. Our research processes include automated and non-automated controls to ensure the integrity of the data collection process. A large number of automated data quality tests check for potential errors, including occupancy date conflicts, available square footage greater than building area, typical floor space greater than land area and expired leases. We also monitor changes to critical fields of information to ensure all information is kept in compliance with our standard definitions and methodology. Our non-automated quality control procedures include:

- Calling our information sources on recently updated properties to re-verify information;
- Performing periodic research audits and field checks to determine if we correctly canvassed buildings;
- Providing training and retraining to our research professionals to ensure accurate and standardized data compilation; and
- Compiling measurable performance metrics for research teams and managers for feedback on data quality.

Finally, one of the most important and effective quality control measures we rely on is feedback provided by the commercial real estate professionals using our data every day.

Proprietary Technology

CoStar’s information technology professionals focus on developing new services and features for our customers, improving and maintaining existing services, integrating our current services, securing our comprehensive database of commercial real estate information and delivering research automation tools that improve the quality of our data and increase the efficiency of our research analysts.

Our information technology team is responsible for developing, improving and maintaining CoStar's information, analytics and online marketplace services. Our information technology team is also responsible for developing the infrastructure necessary to support CoStar’s business processes, our comprehensive database of commercial real estate information, analytics and online marketplaces and our extensive image library. The team implements technologies and systems that introduce efficient workflows and controls designed to increase the production capacity of our research teams and improve the quality of our data. Over the years, the team has developed data collection and quality control mechanisms that we believe are unique within the commercial real estate industry. The team continues to develop and modify our enterprise information management system that integrates CoStar's sales, research, field research, customer support and accounting information. We use this system to maintain our commercial real estate research information, manage contacts with the commercial real estate community, provide research workflow automation and conduct daily automated quality assurance checks. In addition, our information technology team has also developed fraud-detection technology to detect and prevent unauthorized access to our services. To supplement the measures we take to prevent misuse of our information, we recently added state of the art adaptive authentication technology to the login process of our CoStar Suite product.

Our information technology professionals maintain the servers and network components necessary to support CoStar services and research systems. CoStar's core services are served from multiple data centers to support uninterrupted service for our customers. CoStar’s services are continually monitored in an effort to ensure our customers fast and reliable access.

CoStar's comprehensive data protection policy provides for use of secure networks, strong passwords and dual factor authentication systems, encrypted data fields, end to end encryption, endpoint detection and response systems and services, security information and event management systems, off-site storage, cloud services, end user and developer security training, multilayered anti-phishing malware and spam protections and other protective measures in an effort to ensure the availability and security of all core systems.

Services

Our suite of information, analytics and online marketplaces is branded and marketed to our customers. Our services are primarily derived from a database of building-specific information and offer customers specialized tools for accessing, analyzing and using our information. Over time, we have enhanced and expanded, and expect to continue to enhance and expand our existing information, analytics and online marketplace services and we have developed and expect to continue to develop additional services that make use of our comprehensive database to meet the needs of our existing customers as well as potential new categories of customers.

Our principal information, analytics and online marketplace services, are described in the following paragraphs:

<u>Information and Analytics</u>

CoStar Suite®

CoStar Suite® is our integrated suite of online commercial real estate service offerings, which includes information about space available for-lease, information about properties for-sale, comparable sales information, tenant information, market analytics including leasing, sales and construction trends, information about industry professionals and their business relationships and industry news. CoStar Suite includes the following products and services, which are delivered through desktop, mobile and other Internet-connected devices to our subscribers primarily in our North American and European markets.

- *CoStar Property® and for-sale* provide a comprehensive inventory of office, industrial, retail, multifamily and student housing properties and land. We also provide for-lease and for-sale listings, historical data, property analytics, building photographs, demographics, maps and floor plans. Commercial real estate professionals use CoStar Property to identify available space for-lease, evaluate leasing and sale opportunities, value assets and position properties in the marketplace. Our clients also use CoStar Property to analyze market conditions by calculating current vacancy rates, absorption rates or average rental rates, and forecasting future trends based on user selected variables. CoStar Property provides subscribers with powerful map-based search & reporting capabilities.

- *CoStar COMPS®* is the industry’s most comprehensive database of comparable commercial real estate sales transactions and is designed for professionals who need to research property comparables, identify market trends, expedite the appraisal process and support property valuations. CoStar COMPS offers subscribers numerous fields of property information, access to support documents (e.g., deeds of trust) for new comparables, demographics and the ability to view for-sale properties alongside sold properties plotted on a map or aerial image or in a table format.

- *CoStar Market Analytics* provides owners, investors, brokers property managers, lenders, appraisers and other commercial real estate professionals the ability to view and report on aggregated market and submarket trends, including leasing, vacancy, rental rates, construction, investment sales activity and overall economic conditions that affect commercial real estate markets. CoStar Market Analytics covers all major real estate sectors including office, industrial, retail, multifamily and student housing, and provides quantitatively driven and economist curated forecasts of supply, demand, vacancy, and rent at the submarket level, and job growth and asset pricing at the market level.

- *CoStar Tenant®* is a detailed online business-to-business prospecting and analytical tool providing commercial real estate professionals with the most comprehensive commercial real estate-related tenant information available in our North American markets. CoStar Tenant profiles tenants occupying space in commercial buildings and provides updates on lease expirations - one of the service’s key features - as well as occupancy levels, growth rates and numerous other facts. Delivering this information via the Internet allows users to target prospective clients quickly through a searchable database that identifies only those tenants meeting certain criteria.

- *CoStar Lease Comps* provides subscribers comprehensive data regarding CoStar researched lease transactions and a software tool to capture, manage and maintain their own user-entered lease data. In addition, CoStar Lease Comps provides subscribers the ability to analyze this combined lease dataset from an aggregate analytic perspective and generate various reports.

- *CoStar Lease Analysis®* is a workflow tool that is part of CoStar Suite and allows subscribers to incorporate CoStar data with their own data to perform in-depth lease analyses and share those analyses with other subscribers or non-subscribers. CoStar Lease Analysis can be used to produce an understandable cash flow analysis as well as key metrics about any proposed or existing lease. It combines financial modeling with CoStar’s comprehensive property information, enabling the subscriber to compare lease alternatives, either from a landlord or tenant perspective.

- *CoStar Public Record* is CoStar’s newest commercial real estate servicing offering. It provides access to a searchable database of nearly 38 million commercially-zoned parcels in the U.S. Users can search for property attributes, sale transaction, loan, lien and tax assessments information. Information in this module is sourced from numerous counties and jurisdictions that provide this data for ownership, title and property tax assessment purposes.

Information Services

CoStar Real Estate Manager® is a real estate and asset management and lease accounting software solution designed for corporate real estate managers, company executives, financial accounting directors, business unit directors, brokers and project managers. CoStar Real Estate Manager helps users connect real estate initiatives with company strategic goals, streamline portfolio operations, automate the process for collecting and managing space requests, reduce occupancy costs with analytics that track location performance against targets and maximize location performance through proactive portfolio management. Additionally, the software is used to help companies manage their lease accounting and reporting requirements.

CoStar Risk Analytics® is a commercial real estate risk management tool. It allows users to calculate probability of default, loss given default, expected loss and unexpected loss at various confidence levels for a loan or a portfolio. It provides direct comparisons of credit risk and refinance risk across time, market, property type and loan structure for all macroeconomic forecast (including federal stress testing / comprehensive capital analysis and review) scenarios. CoStar Risk Analytics COMPASS is used by lenders, issuers, servicers, ratings agencies and regulators to estimate required loss reserves, economic capital and regulatory capital, target lending opportunities, set pricing strategy, objectively compare/price loans, more effectively allocate capital, manage refinance risk and conduct stress testing. Clients for CoStar Risk Analytics COMPASS services or data include most of the Systemically Important Financial Institutions as well as a large number of other top-500 banks, insurance companies, hedge funds and government financial regulators.

STAR Report is STR’s data analytics report. It provides hospitality benchmarking, measuring a hotel’s performance against a self-selected aggregated competitive set. STR's confidential data reports enable customers to understand their market position based on trends and indices. Reports are provided on a monthly, weekly or daily basis and provide insights about key metrics such as occupancy, average daily rate (ADR) and revenue per available room (RevPAR). STAR Reports are only available to industry participants who provide data to STR -- typically hotel brands, third party management companies and owners. STR also offers ad hoc reports with a customizable data set providing aggregated hotel performance data for a bespoke set of hotels or standardized industry segments (e.g. market or submarket).

Online Marketplaces

Multifamily

Apartments.com™, part of our network of apartment marketing sites, provides a variety of ad packages and enhancements that allow property managers and owners to fully showcase their apartment community through increased exposure and interactions that allow renters to view, engage and connect with the community, including featured community listings, customized flyers and brochures, and special offer coupons. Apartments.com also provides tools to facilitate the rental process, including online applications, background and credit checks and rental payment processing. The Apartments.com network consists of numerous other apartment marketing sites, including:

- *ApartmentFinder*® provides lead generation, advertising and Internet marketing solutions to property managers and owners through its main site, ApartmentFinder.com.

- *ForRent.com*® provides digital advertising through a network of four multifamily websites - which includes ForRent.com, AFTER55.com, CorporateHousing.com and ForRentUniversity.com.

- *ApartmentHomeLiving.com*™ provides renters with another national online apartment rental resource that showcases apartments for rent with official prices, pictures, floor plans and detailed information on each apartment.

- *Apartamentos.com*™ provides Spanish speaking renters with an online apartment rentals resource offered exclusively in Spanish, with the same primary features found on Apartments.com.

- *Westside Rentals*® specializes in Southern California real estate rentals.

- *Off Campus Partners* provides student housing marketplace content and technology to U.S. universities, simplifying the off-campus housing search process for universities, property managers, and students.

Commercial Property and Land

LoopNet Premium Lister® LoopNet Premium Lister is designed for commercial real estate professionals and other customers who seek the broadest possible exposure for their listings, access to leads lists, and advanced marketing and searching tools. LoopNet Premium Lister provides subscribers with the ability to market their listings to all LoopNet.com visitors, as well as numerous other features. LoopNet Premium Lister is available for a quarterly or annual subscription.

LoopNet Signature Ads is designed for commercial real estate professionals and other customers who seek the broadest possible exposure for their listings, access to leads lists, and advanced marketing and searching tools. LoopNet Power Listings provides subscribers with full access to three of the industry's top commercial real estate marketplaces: LoopNet®, Cityfeet® and Showcase.com®, as well as 200+ online newspaper websites including the Wall Street Journal. LoopNet Power Listings is available for a quarterly or annual subscription.

LandsofAmerica™, *LandAndFarm*™ *and LandWatch*® LandsofAmerica.com, LandAndFarm.com, and LandWatch.com are leading online marketplaces for rural land for-sale. Sellers pay a fee to list their land for-sale, and interested buyers can search the respective sites' listings for free. The LandsofAmerica.com, LandAndFarm.com and LandWatch.com websites are also accessible via our Land.com domain.

BizBuySell®, *BizQuest*® *and FindaFranchise* BizBuySell.com, BizQuest.com and FindaFranchise.com are leading online marketplaces for operating businesses and franchises for-sale. Business sellers pay a fee to list their operating businesses for-sale, and interested buyers can search the respective sites' listings for free. The BizBuySell, BizQuest and FindaFranchise Franchise Directories allow interested business buyers to search hundreds of franchise opportunities, and franchisors can list their availabilities in the directory on a cost per lead basis.

Clients

We draw clients from across the commercial real estate and related business community, including commercial real estate brokers, owners, developers, landlords, property managers, financial institutions, retailers, vendors, appraisers, investment banks, government agencies and other parties involved in commercial real estate. For the years ended December 31, 2019, 2018 and 2017, no single client accounted for more than 5% of our revenues.

Sales and Marketing

Our overall sales strategy is to attract new clients, renew existing customers and cross-sell the numerous solutions we have to offer. Our sales teams sell multiple products and are primarily located in field sales offices throughout the U.S., with others in Canada, the U.K., Spain, France, and Germany. Our inside sales teams are largely based in Washington, DC and Richmond, Virginia. Our inside sales professionals actively work lead lists, prospect for new customers and perform product demonstrations over the telephone. They utilize the Internet and remote presentation tools to convey the multiple solutions we have to offer.

Our local offices typically serve as the location for field sales, client support and field research operations. This enables our clients to benefit from a local presence. The sales force is responsible for selling to new prospects, training new and existing clients, providing ongoing customer support, renewing contracts and identifying cross-selling opportunities. In addition, the sales force has the primary front-line responsibility for customer service, ensuring client satisfaction and building long-term relationships. Our local offices act as hubs for training, sources of market insight, product feedback sessions and connecting industry participants.

We use incentives, including discounts to encourage existing clients to buy additional products and services. This deepens our customer relationships and offers more value. We actively manage all client accounts with frequent meetings, trainings and updates on new enhancements. In 2019, we successfully implemented a number of important sales initiatives, including initiatives that focused on property owners in the U.S. Our focus on the owner segment allowed us to successfully position LoopNet Signature Ads as a valuable solution for a property owner’s major risk, namely, the cost of vacant space and the resulting negative impact on valuation of the property or portfolio. Our CoStar U.K. sales force concentrated on reaching customer locations and visiting or training users on the numerous product enhancements we released in 2019. In Canada, our reps were focused on targeting brokers, owners and lender prospects.

We seek to make our services essential to our clients’ businesses. To encourage clients to use our services regularly, we generally charge a fixed monthly amount for our subscription-based information services rather than fees based on actual system usage. Contract rates for subscription-based services are generally based on the number of sites, number of users, organization size, the client’s business focus, geography and the range of services subscribed for. Our marketing solutions are priced by exposure levels, the number of properties/spaces for-lease, rent or sale and the market in which they are offered. Listings for customers who purchase packages with the highest level of exposure usually appear first in search results and offer the richest media content and engagement opportunities for tenants searching for space, renters looking for an apartment or investors seeking an opportunity. Our subscription clients generally pay contract fees on a monthly basis, but in some cases may pay us on a quarterly or annual basis.

Our primary marketing methods include: service demonstrations; face-to-face networking; web-based or digital marketing; direct marketing such as direct mail and email; communication via our corporate website and news services; participation in trade shows and industry events; Company-sponsored events; print advertising in trade magazines and other business publications; client referrals; content marketing including webinars, seminars, and white papers and other company newsletters distributed via email to our clients and prospects. Our CoStar and LoopNet databases have been integrated to enhance CoStar information services as information tools and LoopNet marketplace services as marketing tools. This integration provides clients the ability to enter listings into our Marketing Center tool and to update their listings in CoStar and LoopNet simultaneously. To familiarize clients with the integration and benefits of the tool, we provided video tutorials and hosted numerous webinars, in addition to web-based marketing and direct marketing efforts. In 2019, over one hundred thousand commercial real estate professionals and other users successfully made millions of updates to their listings using our Marketing Center.

To generate brand awareness and site traffic for the Apartments.com network of rental websites, we utilize a multi-channel marketing campaign featuring television and radio ads, online and digital advertising impressions, streaming audio and podcasts, social media, email, public relations and news articles, out-of-home and paid search marketing, all of which are reinforced with substantial Search Engine Optimization efforts. In 2019, we increased our investment in Apartments.com marketing, and we plan to further increase that investment in 2020. We plan to continue to utilize these marketing methods and will continue to work to determine the optimal level of marketing investment for our services for future periods.

Comprehensive digital marketing and direct marketing are effective means for us to find prospective clients. Our digital marketing efforts include Search Engine Optimization, paid advertising with major search engines, social media and display advertising on commercial real estate news and business websites and mobile applications, and our direct marketing efforts include television, radio, out-of-home ads, direct mail and email and, when applicable, make extensive use of our unique, proprietary database. Once we have identified a prospective client, our most effective sales method is a service demonstration. We use various forms of integrated marketing and advertising to build brand awareness, brand identity and reinforce the value and benefits of our services. We also sponsor and attend local association activities and events, including industry-leading events for commercial real estate brokers, property owners, investors and retail and financial services institutions, and attend or exhibit at industry trade shows and conferences to reinforce our relationships with our core user groups.

News has always been a valuable part of CoStar's core subscription offering. CoStar's news teams report on the latest deals and developments across our markets, keeping subscribers informed and driving higher usage in our core product. In 2019, we enhanced our news offerings. We expanded our coverage of real estate investment trusts, and working with the analyst team, added quarterly video updates on national and local markets. We bolstered our coverage of the hospitality industry by adding relevant news from Hotel News Now, a unit of newly acquired STR. We launched a new weekly column on economic policy that proved so popular we made it available as a separate email newsletter to subscribers. We continued to build on our newsletter franchise, giving subscribers the ability to select the coverage they wished to receive in daily emails. In addition, we now showcase news excerpts and advertising on the publicly available CoStar.com.

We believe the ability to customize and personalize news for the user's specific interests makes our news service even more relevant and valuable to subscribers. In addition to encouraging more engagement through logins and time on site, we believe a more robust news operation also provides more options and formats for advertising to the commercial real estate audience.

We currently offer dozens of webinars each year aimed at helping customers learn more about the commercial real estate industry and how to use our services. The webinars are available both as live presentations and as on-demand programs hosted on our website. On a monthly basis, we issue the CoStar Commercial Repeat Sales Index ("CCRSI"), a comprehensive set of benchmarks that investors and other market participants can use to better understand commercial real estate price movements. CCRSI is produced using our underlying data and is publicly distributed by CoStar through the news media and made available online.

Competition

The market for information, analytics and online marketplaces generally is competitive and extremely dynamic. In the commercial real estate and apartment rentals industries, we believe the principal competitive factors affecting these services and providers are:

- Quality and depth of the underlying databases;
- Quality and quantity of leads and leases delivered;
- Ease of use, flexibility and functionality of the software;
- Intuitiveness and appeal of the user interface;
- Timeliness of the data, including listings;
- Breadth of geographic coverage and services offered;
- Completeness and accuracy of content;
- Client service and support;
- Perception that the service offered is the industry standard;
- Price;
- Effectiveness of marketing and sales efforts;
- Proprietary nature of methodologies, databases and technical resources;
- Vendor reputation;
- Brand loyalty among customers; and
- Capital resources.

We compete directly and indirectly for customers with the following categories of companies:

- Online marketing services, websites or data exchanges targeted to commercial real estate brokers, buyers and sellers of commercial real estate properties, insurance companies, mortgage brokers and lenders, such as Reed Business Information Limited and its Estates Gazette and Radius Data Exchange products, RealMassive, officespace.com, 42floors, Brevitas, Catylist, Ten-X, RealNex MarketPlace, TenantWise, www.propertyshark.com, Rofo, BuildingSearch.com, CIMLS, CompStak, Rightmove, CommercialCafe, CREXi, Truss, TotalCommercial.com and DebtX;

- Publishers and distributors of information, analytics and marketing services, including regional providers and national print publications, such as CBRE Economic Advisors, Marshall & Swift, Yale Robbins, REIS Network (part of the Moody's Analytics Accelerator), Real Capital Analytics, Real Capital Markets, Reonomy, The Smith Guide, Yardi Matrix, RealPage and its Axiometrics business and ReScour, Inc.;

- Search engine and Internet listing services featuring apartments for rent, such as Google, Bing, Facebook Marketplace, ApartmentGuide.com, Rent.com, Rentals.com, Zillow Rentals, Trulia Rentals, StreetEasy, NakedApartments.com, HotPads.com, MyNewPlace.com, Zumper, PadMapper, craigslist, ApartmentList.com, Move.com, Realtor.com, Homes.com, Adobo, RadPad, RentJungle, RentCafe.com, RentHop, RentBerry, and ApartmentRatings;

- Locally controlled real estate boards, exchanges or associations sponsoring property listing services and the companies with whom they partner, such as Catylist, the National Association of Realtors, CCIM Institute, Society of Industrial and Office Realtors, the Commercial Association of Realtors Data Services and AIR CRE;

- Real estate portfolio management software solutions, such as Cougar Software, MRI Software, Altus, Intuit and SiteCompli;

- Real estate lease management and administration software solutions, such as Accruent, Tririga, Manhattan Software, Tango Analytics, Lease Accelerator and AMT Direct;

- In-house research departments operated by commercial real estate brokers; and

- Public record providers.

As the market for information, analytics and online marketplaces develops, additional competitors (including companies which could have greater access to data, financial, product development, technical, analytic or marketing resources than we do) may enter the market and competition may intensify. For example, a company like Bloomberg L.P. has the resources, and has previously announced an intention, to move into the commercial real estate information business. Further, a company like Google, which has a far-reaching web presence and substantial data aggregation capabilities, could enter the commercial real estate marketing arena. A company like Zillow, which already has a presence in residential real estate and the apartment rentals industry, could use its resources to further expand in the online apartment rentals industry creating greater competition among Internet listing services for the marketing budgets of property managers and property owners. While we believe that we have successfully differentiated ourselves from existing competitors, current or future competitors could materially harm our business.

Proprietary Rights

To protect our proprietary rights in our methodologies, database, software, trademarks and other intellectual property, we depend upon a combination of:

- Trade secret, misappropriation, unfair competition, copyright, trademark, computer fraud, database protection and other laws;
- Registration of copyrights and trademarks;
- Nondisclosure, noncompetition and other contractual provisions with employees and consultants;
- License agreements with customers;
- Patent protection; and
- Technical measures.

We seek to protect our software's source code, our database and our photography as trade secrets and under copyright law. Although copyright registration is not a prerequisite for copyright protection, we have filed for copyright registration for many of our databases, photographs, software and other materials. Under current U.S. copyright law, the arrangement and selection of data may be protected, but the actual data itself may not be. Certain U.K. database protection laws provide additional protections for our U.K. databases. We license our services under license agreements that grant our clients non-exclusive, non-transferable rights. These agreements restrict the disclosure and use of our information and prohibit the unauthorized reproduction or transfer of any of our proprietary information, methodologies or analytics.

We also attempt to protect our proprietary databases, our trade secrets and our proprietary information through confidentiality and noncompetition agreements with our employees and consultants. Our services also include technical measures designed to detect, discourage and prevent unauthorized access to and/or copying of our intellectual property. We have established an internal antipiracy team that uses fraud-detection technology to continually monitor use of our services to detect and prevent unauthorized access, and we actively prosecute individuals and firms that engage in this unlawful activity.

We maintain U.S. and international trademark registrations for CoStar's core service names and proactively file U.S. and international trademark applications covering our new and planned service names. Our federally registered trademarks include CoStar®, CoStar Suite®, CoStar Property®, CoStar COMPS®, CoStar Tenant®, CoStar Lease Analysis®, LoopNet®, Showcase.com®, Cityfeet.com®, Apartments.com®, and Lands of America®, among many others. In the U.S., trademarks are generally valid as long as they are in use and have not been found to be generic. We consider our trademarks in the aggregate to constitute a valuable asset. In addition, we maintain a patent portfolio that protects certain of our systems and methodologies. We currently have one granted patent in the U.K., which expires in 2021, covering, among other things, certain of our field research methodologies, four patents in Canada, which expire in 2021 (2 patents) and 2036 (2 patents), covering, among other things, certain features of our field research methodologies and user interface features, and thirteen patents in the U.S. which expire in 2020, 2021 (2 patents), 2022 (2 patents), 2025, 2032 (2 patents), 2036, and 2037 (4 patents), covering, among other things, certain features of our field research methodologies and user interface feature. We regard the rights protected by our patents as valuable to our business, but do not believe that our business is materially dependent on any single patent or portfolio of patents as a whole.

Employees

As of January 31, 2020, we employed 4,337 employees. None of our employees are represented by a labor union. We have experienced no work stoppages. We believe that our employee relations are excellent. In common with many German companies, employees in our German subsidiary, Thomas Daily GmbH, have elected five fellow employees to form a Works Council, which represents our employees at the location. The Works Council has certain co-determination rights and rights to receive information from us and engage us in discussions under applicable law.

Available Information

Our investor relations Internet website is http://www.costargroup.com/investors. The reports we file with or furnish to the Securities and Exchange Commission, including our annual report, quarterly reports and current reports, as well as amendments to those reports, are available free of charge on our Internet website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission. The Securities and Exchange Commission maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the Commission at http://www.sec.gov.

Item 1A. Risk Factors

Cautionary Statement Concerning Forward-Looking Statements

We have made forward-looking statements in this Report and make forward-looking statements in our press releases and conference calls that are subject to risks and uncertainties. Forward-looking statements include information that is not purely historic fact and include, without limitation, statements concerning our financial outlook for 2020 and beyond, our possible or assumed future results of operations generally, and other statements and information regarding assumptions about our revenues, revenue growth rates, gross margin percentage, net income, net income per share, fully diluted net income per share, EBITDA, adjusted EBITDA, non-generally accepted accounting principles ("GAAP") net income, non-GAAP net income per share, weighted-average outstanding shares, taxable income (loss), cash flow from operating activities, available cash, operating costs, amortization expense, intangible asset recovery, capital and other expenditures, legal proceedings and claims, legal costs, effective tax rate, equity compensation charges, future taxable income, pending acquisitions, the anticipated benefits of completed or proposed acquisitions, the anticipated timing of acquisition closings, the anticipated benefits of cross-selling efforts, product development and release, planned product enhancements, sales and marketing campaigns, product integrations, elimination and de-emphasizing of services, contract renewal rate, the timing of future payments of principal under our $750 million credit facility available to us under the amended and restated credit agreement dated October 19, 2017 (the "2017 Credit Agreement"), expectations regarding our compliance with financial and restrictive covenants in the 2017 Credit Agreement, financing plans, geographic expansion, development of new products and services, capital structure, contractual obligations, our database, database growth, services and facilities, employee relations, future economic performance, our ability to liquidate or realize our long-term investments, management's plans, goals and objectives for future operations and growth and markets for our stock. Sections of this Report which contain forward-looking statements include "Business," "Risk Factors," "Properties," "Legal Proceedings," "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Quantitative and Qualitative Disclosures About Market Risk," "Controls and Procedures" and the Financial Statements and related Notes.

Our forward-looking statements are also identified by words such as "hope," "anticipate," "may," "believe," "expect," "intend," "will," "should," "plan," "estimate," "predict," "continue" and "potential" or the negative of these terms or other comparable terminology. You should understand that these forward-looking statements are estimates reflecting our judgment, beliefs and expectations, not guarantees of future performance. They are subject to a number of assumptions, risks and uncertainties that could cause actual results to differ materially from those expressed or implied in the forward-looking statements. The following important factors, in addition to those discussed or referred to under the heading "Risk Factors," and other unforeseen events or circumstances, could affect our future results and could cause those results or other outcomes to differ materially from those expressed or implied in our forward-looking statements: commercial real estate market conditions; general economic conditions, both domestic and international , including the impacts of "Brexit" and uncertainty from the expected discontinuance of LIBOR and the transition to any other interest rate benchmark; our ability to identify, acquire and integrate acquisition candidates; our ability to realize the expected benefits, cost savings or other synergies from acquisitions, including STR and OCP, on a timely basis or at all; our ability to combine acquired businesses successfully or in a timely and cost-efficient manner; business disruption relating to integration of acquired businesses or other business initiatives; business disruption relating to acquisitions may be greater than expected; our ability to transition acquired service platforms to our model in a timely manner or at all; changes and developments in business plans; theft of any personally identifiable information we, or the businesses that we acquire, maintain or process; any actual or perceived failure to comply with privacy or data protection laws, regulations or standards; the amount of investment for sales and marketing and our ability to realize a return on investments in sales and marketing; our ability to effectively and strategically combine, eliminate or de-emphasize service offerings; reductions in revenues as a result of service changes; the time and resources required to develop upgraded or new services and to expand service offerings; changes or consolidations within the commercial real estate industry; customer retention; our ability to attract new clients; our ability to sell additional services to existing clients; our ability to successfully introduce and cross-sell new products or upgraded services in U.S. and foreign markets; our ability to attract consumers to our online marketplaces; our ability to increase traffic on our network of sites; the success of our marketing campaigns in generating brand awareness and site traffic; competition; foreign currency fluctuations; global credit market conditions affecting investments; our ability to continue to expand successfully, timely and in a cost-efficient manner, including internationally; our ability to effectively penetrate and gain acceptance in new sectors and geographies; our ability to control costs; litigation or government investigations in which we become involved; changes in accounting policies or practices; release of new and upgraded services or entry into new markets by us or our competitors; data quality; expansion, growth, development or reorganization of our sales force; employee retention; technical problems with our services; managerial execution; changes in relationships with real estate brokers, property managers and other strategic partners; legal and regulatory issues, including any actual or perceived failure to comply with U.S. or international laws, rules or regulations; and successful adoption of and training on our services.

Accordingly, you should not place undue reliance on forward-looking statements, which speak only as of, and are based on information available to us on, the date of this Report. All subsequent written and oral forward-looking statements attributable to us or any person acting on our behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. We do not undertake any obligation to update any such statements or release publicly any revisions to these forward-looking statements to reflect new information or events or circumstances after the date of this Report or to reflect the occurrence of unanticipated events.

Risk Factors

Our revenues and financial position will be adversely affected if we are not able to attract and retain clients. Our success and revenues depend on attracting and retaining subscribers to our information, analytics and online marketplaces. Our subscription-based information, analytics and online marketplaces generate the largest portion of our revenues. However, we may be unable to attract new clients, and our existing clients may decide not to add, not to renew or to cancel subscription services. In addition, in order to increase our revenue, we must continue to attract new customers, continue to keep our cancellation rate low and continue to sell new services to our existing customers. We may not be able to continue to grow our customer base, keep the cancellation rate for customers and services low or sell new services to existing customers as a result of several factors, including without limitation: economic pressures; the business failure of a current client or clients; a decision that customers have no need for our services; a decision to use alternative services; customers' and potential customers' pricing and budgetary constraints; consolidation in the real estate and/or financial services industries; data quality; technical problems; or competitive pressures. We compete against many other commercial real estate information, analytics, and marketing service providers for business, including competitors that offer their services through rapidly changing methods of delivering real estate information. If clients cancel services or decide not to renew their subscription agreements, and we do not sell new services to our existing clients or attract new clients, then our renewal rate, net new sales and revenues may decline or fail to meet expectations.

We may not be able to successfully introduce new or upgraded information, analytics and online marketplace services or combine or shift focus from services with less demand, which could decrease our revenues and our profitability. Our future business and financial success will depend on our ability to continue to anticipate the needs of customers and potential customers, and to successfully introduce new and upgraded services into the marketplace. To be successful, we must be able to quickly adapt to changes in the industry, as well as rapid technological changes by continually enhancing our information, analytics and online marketplace services. Developing new services and upgrades to services, as well as integrating and coordinating current services, imposes heavy burdens on our systems department, product development team, management and researchers. The processes are costly, and our efforts to develop, integrate and enhance our services may not be successful. In addition, successfully launching and selling a new or upgraded service puts additional strain on our sales and marketing resources. If we are unsuccessful in obtaining greater market share or in obtaining widespread adoption of new or upgraded services, we may not be able to offset the expenses associated with the launch and marketing of the new or upgraded service, which could have a material adverse effect on our financial results. For example, to generate brand awareness and site traffic for our Apartments.com network of rental websites, we invest significant resources in a multi-channel marketing campaign. If the marketing campaign does not continue to increase brand awareness, site traffic and/or revenues, it could have an adverse effect on our financial results.

If we are unable to develop new or upgraded services or decide to combine, shift focus from, or phase out a service, then our customers may choose a competitive service over ours and our revenues may decline and our profitability may be reduced. If we incur significant costs in developing new or upgraded services or combining and coordinating existing services, if we are not successful in marketing and selling these new services or upgrades, or if our customers fail to accept these new or combined and coordinating services, then there could be a material adverse effect on our results of operations due to a decrease of our revenues and a reduction of our profitability. In addition, as we integrate acquired businesses, we continue to assess which services we believe will best meet the needs of our customers. If we eliminate or phase out a service and are not able to offer and successfully market and sell an alternative service, our revenue may decrease, which could have a material adverse effect on our results of operations.

If we do not invest in product development and provide services that are attractive to our marketplace users and to our advertisers, our business could be adversely affected. Our success depends on our continued improvements to provide services that make our marketplaces useful for users and attractive to our advertisers. As a result, we must continually invest resources in research and development to improve the appeal and comprehensiveness of our services and effectively incorporate new technologies. If we are unable to provide services that users want, then users may become dissatisfied and use competitors' websites. If we are unable to continue offering innovative services, we may be unable to attract additional users and advertisers or retain our current users and advertisers, which could harm our business, results of operations and financial condition.

A downturn or consolidation in the commercial real estate industry may decrease customer demand for our services. The commercial real estate market may be adversely impacted by many different factors, including lower than expected job growth or job losses resulting in reduced real estate demand; rising interest rates and slowing transaction volumes that negatively impact investment returns; excessive speculative new construction in localized markets resulting in increased vacancy rates and diminished rent growth; and unanticipated disasters and other adverse events such as slowing of the growth in the working age population resulting in reduced demand for all types of real estate. A reversal of improvements in the commercial real estate industry's leasing activity and absorption rates or a downturn in the commercial real estate market may affect our ability to generate revenues and may lead to more cancellations by our current or future customers, either of which could cause our revenues or our revenue growth rate to decline and reduce our profitability. A depressed commercial real estate market has a negative impact on our core customer base, which could decrease demand for our information, analytics and online marketplaces. Also, companies in this industry may consolidate, often in order to reduce expenses. Consolidation, or other cost-cutting measures by our customers, may lead to cancellations of our information, analytics and online marketplace services by our customers, reduce the number of our existing clients, reduce the size of our target market or increase our clients' bargaining power, all of which could cause our revenues to decline and reduce our profitability. If cancellations, reductions of services, and failures to pay increase, and we are unable to offset the resulting decrease in revenues by increasing sales to new or existing customers, our revenues may decline or grow at lower rates.

Negative general economic conditions could increase our expenses and reduce our revenues. Our business and the commercial real estate industry are particularly affected by negative trends in the general economy. The success of our business depends on a number of factors relating to general global, national, regional and local economic conditions, including perceived and actual economic conditions, recessions, inflation, deflation, exchange rates, interest rates, taxation policies, availability of credit, employment levels, wage and salary levels, and uncertainty from the expected discontinuance of LIBOR and the transition to any other interest rate benchmark. Negative general economic conditions could adversely affect our business by reducing our revenues and profitability. If we experience greater cancellations or reductions of services and failures to timely pay, and we do not acquire new clients or sell new services to our existing clients, our revenues may decline and our financial position would be adversely affected. Adverse national and global economic events, as well as any significant terrorist attack, are likely to have a dampening effect on the economy in general, which could negatively affect our financial performance and our stock price. Further actions or inactions of the U.S. or other major national governments, including "Brexit", may also impact economic conditions, which could result in financial market disruptions or an economic downtown. Market disruptions may also contribute to extreme price and volume fluctuations in the stock market that may affect our stock price for reasons unrelated to our operating performance. In addition, a significant increase in inflation could increase our expenses more rapidly than expected, the effect of which may not be offset by corresponding increases in revenue. Conversely, deflation resulting in a decline of prices could reduce our revenues. In the current economic environment, it is difficult to predict whether we will experience significant inflation or deflation in the near future. A significant increase in either could have an adverse effect on our results of operations. See the risk factor below titled "The economic effects of "Brexit" may affect relationships with existing and future customers and could have an adverse impact on our business and operating results" for further discussion of risks related to Brexit.

If we are unable to hire qualified persons for, or retain and continue to develop, our sales force, or if our sales force is unproductive, our revenues could be adversely affected. In order to support revenues and future revenue growth, we need to continue to develop, train and retain our sales force. Our ability to build and develop a strong sales force may be affected by a number of factors, including: our ability to attract, integrate and motivate sales personnel; our ability to effectively train our sales force; the ability of our sales force to sell an increased number and different types of services; our ability to manage effectively an outbound telesales group; the length of time it takes new sales personnel to become productive; the competition we face from other companies in hiring and retaining sales personnel; our ability to effectively structure our sales force; and our ability to effectively manage a multi-location sales organization, including field sales personnel. If we are unable to hire qualified sales personnel and develop and retain the members of our sales force, including sales force management, or if our sales force is unproductive, our revenues or growth rate could decline and our expenses could increase.

We may not be able to compete successfully against existing or future competitors in attracting advertisers, which could harm our business, results of operations and financial condition. We compete to attract advertisers. Our competition for advertisers may have significant brand recognition as well as greater numbers of direct sales personnel than we have and may generate more web traffic than we do, which may provide a competitive advantage. To compete successfully for advertisers against future and existing competitors, we must continue to invest resources in developing our advertising platform and proving the effectiveness and relevance of our advertising services. Pressure from competitors seeking to acquire a greater share of our advertisers' overall marketing budget could adversely affect our pricing and margins, lower our revenue, and increase our research and development and marketing expenses. If we are unable to compete successfully against our existing or future competitors, our business, results of operations or financial condition could be adversely affected.

We may be unable to increase awareness of our brands, including CoStar, LoopNet, Apartments.com, BizBuySell and LandsofAmerica, which could adversely affect our business. We rely heavily on our brands, which we believe are key assets of our company. Awareness and differentiation of our brands are important for attracting and expanding the number of users of, and subscribers to, our online marketplaces, such as LoopNet, the Apartments.com network of rental websites, CoStar Showcase, and the Land.com network of rural lands for-sale. We expect to increase our investments in sales and marketing in 2020 as we seek to grow the numbers of subscribers to, and advertisers on, our marketplaces. Our methods of advertising may not be successful in increasing brand awareness or, ultimately, be cost-effective. If we are unable to maintain or enhance user and advertiser awareness of our brands, or if we are unable to recover our marketing and advertising costs through increased usage of our services and increased advertising on our websites, our business, results of operations and financial condition could be adversely affected.

Our internal and external investments may place downward pressure on our operating margins. We continue to invest in our business, including internal investments in product development to expand the breadth and depth of services we provide to our customers and external investments in sales and marketing to generate brand awareness. Our investment strategy is intended to increase our revenue growth in the future. Our operating margins may experience downward pressure in the short term as a result of these investments. Furthermore, our investments may not have their intended effect or produce the expected results. In addition, our external investments, such as capitalized commissions, may lose value and we may incur impairment charges with respect to such investments. Such impairment charges may negatively impact our profitability. If we are unable to successfully execute our investment strategy or if we fail to adequately anticipate and address potential problems, we may experience decreases in our revenues and operating margins.

We rely on Internet search engines to drive traffic to our websites. If Internet search engines do not prominently feature our websites on the search engine results page, traffic to our websites would decrease and our business could be adversely affected. Google, Bing, DuckDuckGo and other Internet search engines drive traffic to our websites, including CoStar.com, the Apartments.com network of rental websites, the LoopNet.com network of commercial real estate websites, the BizBuySell.com network of business for-sale websites and the Land.com network of land for-sale websites. For example, when a user enters in a search query for an apartment building name or address into an Internet search engine, the Internet search engine's ranking of our Apartments.com webpages will determine how prominently such webpages are displayed on the search engine results page. Our ability to maintain prominent search result rankings and positioning is not entirely within our control. Our competitors' Search Engine Optimization (SEO) and Search Engine Marketing (SEM) efforts may result in webpages from their websites receiving higher rankings than the webpages from our websites. Internet search engines could revise their algorithms and methodologies in ways that would adversely affect our search result rankings. Internet search engine providers could form partnerships or enter into other business relationships with our competitors resulting in competitors' sites receiving higher search result rankings. Internet search engines are increasingly placing alternative search features (such as featured snippets, local map results and other immersive experiences) on the search engine results page above or more prominently than search engine results. If our search result rankings are not prominently displayed, traffic to our websites may decline which could slow the growth of our user base. Our websites have experienced fluctuations in search result rankings in the past, and we anticipate similar fluctuations will occur in the future. If we experience a material reduction in the number of users directed to our websites through Internet search engines, our business, results of operations and financial condition could be adversely affected.

Competition could render our services uncompetitive and reduce our profitability. The markets for information systems and services and for online marketplaces in general are highly competitive and rapidly changing. Competition in these markets may increase further if economic conditions or other circumstances cause customer bases and customer spending to decrease and service providers to compete for fewer customer resources. Our existing competitors, or future competitors, may have greater name recognition, larger customer bases, better technology or data, lower prices, easier access to data, greater user traffic or greater financial, technical or marketing resources than we have. Our competitors may be able to undertake more effective marketing campaigns, obtain more data, adopt more aggressive pricing policies, make more attractive offers to potential employees, subscribers, advertisers, distribution partners and content providers or may be able to respond more quickly to new or emerging technologies or changes in user requirements. If we are unable to retain customers or obtain new customers, our revenues could decline. Increased competition could result in lower revenues and higher expenses, which would reduce our profitability.

If we are unable to maintain or increase traffic to our marketplaces, our business and operating results could be adversely affected. Our ability to generate revenues from our marketplace businesses depends, in part, on our ability to attract users to our websites. If we fail to maintain or increase traffic to our marketplaces, our ability to acquire additional subscribers or advertisers and deliver leads to and retain existing subscribers and advertisers could be adversely affected. Our marketing expenses may increase in connection with our efforts to maintain or increase traffic to our websites. Our efforts to maintain or generate additional traffic to our marketplaces may not be successful. Even if we are able to attract additional users, increases in our operating expenses could negatively impact our operating results if we are unable to generate more revenues through increased sales of subscriptions to our marketplace products. We face competition to attract users to our marketplace websites. Our existing and potential competitors include companies that could devote greater technical and other resources than we have available to provide services that users might view as superior to our offerings. Any of our future or existing competitors may introduce different solutions that attract users away from our services or provide solutions similar to our own that have the advantage of better branding or marketing resources. If we are unable to increase traffic to our marketplaces, or if we are unable to generate enough additional revenues to offset increases in expenses related to increasing traffic to our marketplaces, our business and operating results could be adversely affected.

If real estate professionals or other advertisers reduce or cancel their advertising spending with us and we are unable to attract new advertisers, our operating results would be harmed. Our marketplace businesses, including LoopNet, the Apartments.com network of rental websites, and the Land.com network of rural lands for-sale, depend on advertising revenues generated primarily through sales to persons in the real estate industry, including property managers and owners and other advertisers. Our ability to attract and retain advertisers, and ultimately to generate advertising revenue, depends on a number of factors, including:

- Increasing the number of unique visitors to, and users of, our websites and mobile applications;
- The quantity and quality of the leads that we provide to our advertisers;
- The success of any marketing and product development efforts directed at attracting additional users and advertisers to our marketplaces;
- Keeping pace with changes in technology and with our competitors; and
- Offering an attractive return on investment to our advertisers for their advertising dollars spent with us.

Further, with respect to the Apartments.com network of rental websites, our ability to attract and retain advertisers also depends on the current apartment rental market and apartment vacancy rates. If vacancy rates are too high or too low, advertisers may not need to utilize our marketplace services.

Many of the advertisers who advertise on our marketplaces do not have long-term contracts. These advertisers could choose to modify or discontinue their relationships with us with little or no advance notice. In addition, as existing subscriptions for advertising expire, we may not be successful in renewing these subscriptions or securing new subscriptions. We may not succeed in retaining existing advertisers' spending or capturing a greater share of such spending if we are unable to convince advertisers of the effectiveness of our services as compared to alternatives. In addition, future changes to our pricing methodology for advertising services may cause advertisers to reduce or discontinue their advertising with us. If current advertisers reduce or end their advertising spending with us and we are unable to attract new advertisers, our advertising revenues and business, results of operations and financial condition could be adversely affected.

If we are not able to successfully identify, finance, integrate and/or manage costs related to acquisitions, our business operations and financial position could be adversely affected. We have expanded our markets and services in part through acquisitions of complementary businesses, services, databases and technologies, and expect to continue to do so in the future. Our strategy to acquire complementary companies or assets depends on our ability to identify, and the availability of, suitable acquisition candidates. We are likely to incur costs in connection with proposed acquisitions, but may ultimately be unable or unwilling to consummate any particular proposed transaction for various reasons. In addition, acquisitions involve numerous risks, including risks that we will not be able to realize or capitalize on synergies created through combinations; manage the integration of personnel and products or services; manage the integration of acquired infrastructure and controls; control potential increases in operating costs; manage geographically remote operations; maintain management's attention on other business concerns and avoid potential disruptions in ongoing operations during an acquisition process or integration efforts; successfully enter markets and sectors in which we have either limited or no direct experience, including foreign markets whose practices, regulations or laws may pose increased risk; and retain key employees, clients or vendors and other business partners of the acquired companies. We may not successfully integrate acquired businesses or assets and may not achieve anticipated benefits of an acquisition, including expected synergies. For example, we may be unable to close the RentPath acquisition when or as expected and we may be unable to fully integrate STR with CoStar when and as expected.

We often incur severance costs and other integration costs post-acquisition, such as IT integration expenses and costs related to the renegotiation of redundant vendor agreements. Costs in connection with acquisitions and integrations may be higher than expected, and we may also incur unanticipated acquisition-related costs. These costs could adversely affect our financial condition, results of operation or prospects of the combined business.

External factors, such as compliance with laws and regulations, and shifting market preferences, may also impact the successful integration of an acquired business. An acquired business could strain our system of internal controls and diminish its effectiveness, including as a result of unsuccessful integration or because integration with our existing systems puts additional stress on our core infrastructure. Acquisitions could result in dilutive issuances of equity securities, the incurrence of debt, one-time write-offs of goodwill and substantial amortization expenses of other intangible assets. We may be unable to obtain financing on favorable terms, or at all, if necessary to finance future acquisitions, making it impossible or more costly to complete future acquisitions. If we are able to obtain financing, the terms may be onerous and restrict our operations. Further, certain acquisitions may be subject to regulatory approval, which can be time consuming and costly to obtain or may be denied. If regulatory approval is obtained, the terms of any such approval may impose limitations on our ongoing operations or require us to divest assets or lines of business.

If regulatory approval is denied, we may incur significant, additional costs payable to an acquisition target as a result of failure to close the transaction.

Our actual or perceived failure to comply with privacy laws and standards could adversely affect our business, financial condition and results of operations. We depend on information technology networks and systems to process, transmit and store electronic information and to communicate between our locations around the world and with our clients and vendors. We collect, use and disclose personally identifiable information, including among other things names, addresses, phone numbers and email addresses. We collect, store and use biometric data and sensitive or confidential transaction and account information. In addition, we collect personal information from tenants and landlords, including social security numbers, state or federally issued identification numbers, dates of birth, financial information and documents, employment information, background checks and credit scores, to facilitate the apartment rental application and payment process between a renter and property manager. As a result, we are subject to a variety of state, national, and international laws and regulations that apply to the collection, use, retention, protection, disclosure, transfer and other processing of personal data, including the Fair Credit Reporting Act, the General Data Protection Regulation (GDPR) and California Consumer Privacy Act (CCPA). Laws and regulations related to privacy and data protection are evolving, with new or modified laws and regulations proposed and implemented frequently and existing laws and regulations subject to new or different interpretations. For example, in 2016, the EU formally adopted the GDPR, which was implemented in all EU member states effective May 25, 2018 and replaced the EU Data Protection Directive. The GDPR introduced new data protection requirements in the EU and imposes substantial fines for breaches of the data protection rules. The GDPR increased our responsibility and liability in relation to personal data that we process. We continue to assess our compliance with GDPR in light of guidance from data protection authorities, evolving best practices and evolving regulations and we may need to put in place additional mechanisms to ensure compliance with the new EU data protection rules. The CCPA, which became effective on January 1, 2020, expands the rights of California residents to access and require deletion of their personal information, opt out of certain personal information sharing and receive detailed information about how their personal information is used. The CCPA also provides for civil penalties for violations, as well as a private right of action for data breaches that may increase data breach litigation. Any failure to comply with the rules arising from the GDPR and related national laws of EU member states, CCPA and other privacy or data protection laws adopted by other jurisdictions, could lead to government enforcement actions and significant penalties against us, and could adversely affect our business, financial condition, cash flows and results of operations. Compliance with any of the foregoing laws and regulations can be costly, can delay or impede the development of new products, and may require us to change the way we operate. We may incur substantial fines if we violate any laws or regulations relating to the collection or use of personal information.

Our actual or alleged failure to comply with applicable privacy or data security laws, regulations and policies, or to protect personal data, could result in enforcement actions and significant penalties against us, which could result in negative publicity, increase our operating costs, subject us to claims or other remedies and have a material adverse effect on our business, financial condition and results of operations.

Because the interpretation and application of many privacy and data protection laws are uncertain, it is possible that these laws may be interpreted and applied in a manner that is inconsistent with our existing data management practices or the features of our products. If so, in addition to the possibility of fines, lawsuits and other claims and penalties, we could be required to fundamentally change our business activities and practices or modify our products, which could harm our business.

We expect that there will continue to be new proposed laws, regulations and industry standards concerning privacy, data protection and information security in the United States and other jurisdictions, and we cannot determine the impact such future laws, regulations and standards may have on our business. Our policies concerning the collection, use and disclosure of personally identifiable information are described on our websites. We could be subject to legal claims, government action, harm to our reputation or incur significant remediation costs if we experience a security breach or our practices fail, or are seen as failing, to comply with our policies or with applicable laws concerning personally identifiable information.

Concern regarding our use of the personal information collected on our websites or collected when performing our services could keep prospective customers from subscribing to our services. Industry-wide incidents or incidents with respect to our websites, including misappropriation of third-party information, security breaches or changes in industry standards, regulations or laws, could deter people from using the Internet or our websites to conduct transactions that involve the transmission of confidential information, which could harm our business.

Cyberattacks and security vulnerabilities could result in serious harm to our reputation, business, and financial condition. As stated above, our business involves the collection, storage, processing and transmission of customers' personal data. We also collect, store and process employee personal data. An increasing number of organizations, including large merchants, businesses, technology companies and financial institutions, as well as government institutions, have disclosed breaches of their information security systems, some of which have involved sophisticated and highly targeted attacks, including on their websites, mobile applications, and infrastructure.

The techniques used to obtain unauthorized, improper or illegal access to a target's systems, data or customers' data, disable or degrade services, or sabotage systems are constantly evolving and have become increasingly complex and sophisticated, may be difficult to detect quickly and often are not recognized or detected until after they have been launched against a target. We expect that unauthorized parties will continue to attempt to gain access to our systems or facilities through various means, including hacking into our systems or facilities or those of our customers or vendors, or attempting to fraudulently induce (for example, through spear phishing attacks or social engineering) our employees, customers, vendors or other users of our systems into disclosing user names, passwords, or other sensitive information, which may in turn be used to access our information technology systems. Numerous and evolving cybersecurity threats, including advanced and persisting cyberattacks, phishing and social engineering schemes, could compromise the confidentiality, availability, and integrity of the data in our systems. Our cybersecurity programs and efforts to protect our systems and data, and to prevent, detect and respond to data security incidents, may not prevent these threats or provide security. Further, the security measures and procedures our customers, vendors and other users of our systems have in place to protect sensitive consumer data and other information may not be successful or sufficient to counter all data breaches, cyberattacks or system failures.

Our information technology and infrastructure may be vulnerable to cyberattacks or security breaches, and third parties may be able to access our customers' or employees' personal or proprietary information that is stored on or accessible through those systems. We have experienced from time to time, and may experience in the future, breaches of our security measures due to human error, malfeasance, system errors or vulnerabilities or other irregularities. Actual or perceived breaches of our security could, among other things:

- Interrupt our operations,
- Result in our systems or services being unavailable,
- Result in improper disclosures of data,
- Materially harm our reputation and brands,
- Result in significant regulatory scrutiny and legal and financial exposure,
- Cause us to incur significant remediation costs,
- Lead to loss of customer confidence in, or decreased use of, our products and services,
- Divert the attention of management from the operation of our business,
- Result in significant contractual penalties or other payments as a result of third-party losses or claims, and
- Adversely affect our business and result of operations.

In addition, any cyberattacks or data security breaches affecting companies that we acquire or our customers or vendors (including data center and cloud computing providers) could have similar negative effects on our business. The coverage under our insurance policies may not be adequate to reimburse us for losses caused by security breaches.

We are subject to a number of risks related to acceptance of credit cards and debit cards for customer payments. We accept payments for our services through credit and debit card transactions. For credit and debit card payments, we pay interchange and other fees, which may increase over time. An increase in those fees may require us to increase the prices we charge and would increase our cost of revenues, either of which could harm our business, financial condition or results of operations.

We depend on processing vendors to complete credit and debit card transactions. If we or our processing vendors fail to maintain adequate systems for the authorization and processing of credit card transactions, it could cause one or more of the major credit card companies to disallow our continued use of their payment products. We could lose customers if we are not able to continue to use payment products of the major credit card companies. In addition, if the systems for the authorization and processing of credit card transactions fail to work properly and, as a result, we do not charge our customers' credit cards on a timely basis or at all, our business, revenue, results of operations and financial condition could be harmed.

We are also subject to payment card association operating rules, certification requirements and rules governing electronic funds transfers, which could change or be reinterpreted in ways that make it more difficult for us to comply. We are required to comply with payment card industry security standards. Failing to comply with those standards may violate payment card association operating rules, federal and state laws and regulations, and the terms of our contracts with payment processors. Any failure to comply also may subject us to fines, penalties, damages and civil liability, and may result in the loss of our ability to accept credit and debit card payments. Further, there is no guarantee that such compliance will prevent illegal or improper use of our payment systems or the theft, loss, or misuse of data pertaining to credit and debit cards, cardholders and transactions. If we fail to adequately control fraudulent credit card transactions, we may face civil liability, diminished public perception of our security measures and significantly higher credit card-related costs, each of which could harm our business, results of operations and financial condition.

If we are unable to maintain our chargeback rate or refund rates at acceptable levels, our processing vendors may increase our transaction fees or terminate their relationships with us. Any increases in our credit and debit card fees could harm our results of operations, particularly if we elect not to raise our rates for our services to offset the increase. The termination of our ability to process payments on any major credit or debit card would significantly impair our ability to operate our business.

Technical problems or disruptions that affect either our customers' ability to access our services, or the software, internal applications, database and network systems underlying our services, could damage our reputation and brands and lead to reduced demand for our information, analytics and online marketplace services, lower revenues and increased costs. Our business, brands and reputation depend upon the satisfactory performance, reliability and availability of our websites, the Internet and our service providers. Interruptions in these systems, whether due to system failures, computer viruses, software errors, physical or electronic break-ins, or malicious hacks or attacks on our systems (such as denial of service attacks), could affect the security and availability of our services on our mobile applications and our websites and prevent or inhibit the ability of users to access our services. Our operations also depend on our ability to protect our databases, computers and software, telecommunications equipment and facilities against damage from potential dangers such as fire, flood, power loss, security breaches, computer viruses, telecommunications failures, terrorist attacks, acts of war, electronic and physical break-ins, computer viruses, earthquakes and similar events. Our users rely on our services when conducting their own businesses. Disruptions in, or reductions in ability to access, our services for whatever reason could damage our users' businesses, harm our reputation, result in additional costs or result in reduced demand for our information, analytics and online marketplace services, any of which could harm our business, results of operations and financial condition.

In addition, the software, internal applications and systems underlying our services are complex and may not be error-free. Our careful development and testing may not be sufficient to ensure that we will not encounter technical problems when we attempt to enhance our software, internal applications and systems. Any inefficiencies, errors or technical problems with our software, internal applications and systems could reduce the quality of our services or interfere with our customers' access to our information, analytics and online marketplaces, which could reduce the demand for our services, lower our revenues and increase our costs.

The majority of the communications, network and computer hardware used to operate our mobile applications and websites are located at facilities in Virginia and California. We do not own or control the operation of certain of these facilities. Our systems and operations are vulnerable to damage or interruption from fire, flood, power loss, security breaches, computer viruses, telecommunications failure, terrorist attacks, acts of war, electronic and physical break-ins, earthquakes and similar events. These risks may be increased with respect to operations housed at facilities we do not own or control. The occurrence of any of the foregoing events could result in damage to our systems and hardware or could cause them to fail completely, and our insurance may not cover such events or may be insufficient to compensate us for losses that may occur.

A failure of our systems at any site could result in reduced functionality for our users, and a total failure of our systems could cause our mobile applications or websites to be inaccessible. Problems faced or caused by our information technology service providers, including content distribution service providers, private network providers, Internet providers and third-party web-hosting providers, or with the systems by which they allocate capacity among their customers (as applicable), could adversely affect the experience of our users. Any financial difficulties, such as bankruptcy reorganization, faced by these third-party service providers or any of the service providers with whom they contract may have negative effects on our business, the nature and extent of which are difficult to predict. If our third-party service providers are unable to keep up with our growing needs for capacity, our business could be harmed. In addition, if distribution channels for our mobile applications experience disruptions, such disruptions could adversely affect the ability of users and potential users to access or update our mobile applications, which could harm our business.

Our business interruption insurance may not cover certain events or may be insufficient to compensate us for the potentially significant losses, including the potential harm to the future growth of our business, which may result from interruptions in our service as a result of system failures or malicious attacks. Any errors, defects, disruptions or other performance problems with our services could harm our reputation, business, results of operations and financial condition.

If we are not able to obtain and maintain accurate, comprehensive or reliable data, we could experience reduced demand for our information, analytics and online marketplace services. Our success depends on our clients' confidence in the comprehensiveness, accuracy and reliability of the data and analysis we provide. The task of establishing and maintaining accurate and reliable data and analysis is challenging. If our data, including the data we obtain from third parties or directly from brokers through the Marketing Center feature on CoStar and LoopNet, or analysis is not current, accurate, comprehensive or reliable, we could experience reduced demand for our services or legal claims by our customers, which could result in lower revenues and higher expenses.

Market volatility may have an adverse effect on our stock price. The trading price of our common stock has fluctuated widely in the past, and we expect that it will continue to fluctuate in the future. The price could fluctuate widely based on numerous factors, including: economic factors or conditions; quarter-to-quarter variations in our operating results; changes in analysts' estimates of our earnings; announcements by us or our competitors of technological innovations, new services, or other significant or strategic information; general conditions in the commercial real estate industry; general conditions of local, national or global economies; developments or disputes concerning copyrights or proprietary rights or other legal proceedings; and regulatory developments. In addition, the stock market in general, and the shares of Internet-related and other technology companies in particular, have historically experienced extreme price fluctuations. This volatility has had a substantial effect on the market prices of securities issued by many companies for reasons unrelated to the operating performance of the specific companies and may have the same effect on the market price of our common stock.

If we are unable to enforce or defend our ownership and use of intellectual property, our business, brands, competitive position and operating results could be harmed. The success of our business depends in large part on our intellectual property, including intellectual property involved in our methodologies, database, services and software. We rely on a combination of trademark, trade secret, patent, copyright and other laws, nondisclosure and noncompetition provisions, license agreements and other contractual provisions and technical measures to protect our intellectual property rights. However, current law may not provide for adequate protection of our databases and the actual data. In addition, legal standards relating to the validity, enforceability and scope of protection of proprietary rights in Internet-related businesses are uncertain and evolving, and changes in these standards may adversely impact the viability or value of our proprietary rights. We find our proprietary content on competitors' sites. If we are not successful in protecting our intellectual property, including our content, our brands and our business, results of operations and financial condition could be harmed. The same would be true if a court found that our services infringe other persons' intellectual property rights. Any intellectual property lawsuits or threatened lawsuits in which we are involved, either as a plaintiff or as a defendant, could cost us a significant amount of time and money and distract management's attention from operating our business. In addition, if we do not prevail on an intellectual property claim, this could result in a change to our methodology or information, analytics and online marketplace services and could reduce our profitability.

Effective trademark, trade secret, patent, and copyright protection may not be available in every country in which our services may be provided. The laws of certain countries do not protect proprietary rights to the same extent as the laws of the United States and, therefore, in certain jurisdictions, we may be unable to protect our intellectual property and our proprietary technology adequately against unauthorized third-party copying or use, which could harm our competitive position.

We seek to enforce our rights against people and entities that infringe our intellectual property, including through legal action. Taking such action may be costly, and we cannot ensure that such actions will be successful. Any increase in the unauthorized use of our intellectual property could make it more expensive for us to do business and harm our results of operations or financial condition.

We may not be able to successfully halt the operation of websites that aggregate our data, as well as data from other companies, such as copycat websites that may misappropriate our data. Third parties may misappropriate our data through website scraping, robots or other means and aggregate this data on their websites with data from other companies. In addition, "copycat" websites may misappropriate data on our website and attempt to imitate our brands or the functionality of our website. We may not be able to detect all such websites in a timely manner and, even if we could, technological and legal measures may be insufficient to stop their operations. In some cases, particularly in the case of websites operating outside of the U.S., our available remedies may not be adequate to protect us against the misappropriation of our data. Regardless of whether we can successfully enforce our rights against the operators of these websites, any measures that we may take could require us to expend significant financial or other resources.

Third party claims, litigation or government investigations to which we are subject or in which we become involved, regardless of their merit, may significantly increase our expenses and adversely affect our stock price. We could be subject to third party claims, lawsuits, or government investigations into whether our business practices comport with applicable law, including antitrust law. Regardless of the merit of such claims or investigations, defending against them could cost us a significant amount of time and money, result in negative publicity, and/or adversely affect our stock price. In addition, if any claims are decided against us or if a settlement requires us to pay a large monetary amount or take other action that materially restricts or impedes our operations, our profitability could be significantly reduced and our financial position could be adversely affected.

We may be subject to legal liability for collecting, displaying or distributing information. Because the content in our database is collected from various sources and distributed to others, we may be subject to claims for breach of contract, defamation, negligence, unfair competition or copyright or trademark infringement or claims based on other theories. We could also be subject to claims based upon the content that is accessible from our website through links to other websites or information on our website supplied by third parties. We could also be subject to claims that the collection or provision of certain information breached laws and regulations relating to privacy and data protection. Even if these claims do not result in liability to us, we could incur significant costs in investigating and defending against any claims and we could be subject to public notice requirements that may affect our reputation in the marketplace. Our potential liability for information distributed by us to others could require us to implement measures to reduce our exposure to such liability, which may require us to expend substantial resources and limit the attractiveness of our information, analytics and online marketplaces to users.

Our business depends on retaining and attracting highly capable management and operating personnel. Our success depends in large part on our ability to retain and attract management and operating personnel, including our President and Chief Executive Officer, Andrew Florance, and our other officers and key employees. Our business requires highly skilled technical, sales, management, web product and development, marketing and research personnel, who are in high demand and are often subject to competing offers. To retain and attract key personnel, we use various measures, including employment agreements, awards under a stock incentive plan and incentive bonuses for key employees. These measures may not be enough to retain and attract the personnel we need or to offset the impact on our business of the loss of the services of Mr. Florance or other key officers or employees.

An impairment in the carrying value of goodwill could negatively impact our consolidated results of operations and net worth. Goodwill and identifiable intangible assets not subject to amortization are tested annually by each reporting unit on October 1 of each year for impairment and are tested for impairment more frequently based upon the existence of one or more indicators. We assess the impairment of long-lived assets, identifiable intangibles and goodwill whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Judgments made by management relate to the expected useful lives of long-lived assets and our ability to realize undiscounted cash flows of the carrying amounts of such assets. The accuracy of these judgments may be adversely affected by several factors, including the factors listed below:

- Significant underperformance relative to historical or projected future operating results;
- Significant changes in the manner of our use of acquired assets or the strategy for our overall business;
- Significant negative industry or economic trends; or
- Significant decline in our market capitalization relative to net book value for a sustained period.

These types of events or indicators and the resulting impairment analysis could result in goodwill impairment charges in the future, which would reduce our profitability. Impairment charges could negatively affect our financial results in the periods of such charges, which may reduce our profitability. As of December 31, 2019, we had approximately $1.9 billion of goodwill, including approximately $1.7 billion in our North America operating segment and approximately $144 million in our International operating segment.

If we are unable to obtain or retain listings from commercial real estate brokers, agents, property owners and apartment property managers, our commercial real estate ("CRE") marketplace services, including but not limited to the LoopNet.com network of commercial real estate websites, the Apartments.com network of rental websites, and the Land.com network of land for-sale websites, could be less attractive to current or potential customers, which could reduce our revenues. The value of our CRE marketplace services to our customers depends on our ability to increase the number of property listings provided and searches conducted. The success of our CRE marketplace services depends substantially on the number of property listings submitted by brokers, agents, property owners and, in the case of apartment rentals, property managers. This is because an increase in the number of listings increases the utility of the online service and of its associated search, listing and marketing services. If agents marketing large numbers of property listings, such as large brokers in key real estate markets, choose not to continue their listings with us, or choose to list them with a competitor, our CRE marketplace services could be less attractive to other real estate industry transaction participants, resulting in reduced revenue. Similarly, the value and utility of our other marketplaces, including the BizBuySell.com network of business for-sale websites, are also dependent on attracting and retaining listings.

If we are unable to convince commercial real estate professionals that our CRE marketplace services are superior to traditional methods of listing, searching and marketing commercial real estate, they could choose not to use those services, which could reduce our revenues or increase our expenses. The primary source of new customers for our CRE marketplace services is participants in the commercial real estate community. Many commercial real estate professionals are accustomed to listing, searching and marketing real estate in traditional and off-line ways, such as by distributing print brochures, sharing written lists, placing signs on properties, word-of-mouth and newspaper advertisements. Commercial real estate and investment professionals may prefer to continue to use traditional methods or may be slow to adopt and accept our online products and services. If we are not able to persuade commercial real estate participants of the efficacy of our online products and services, they may choose not to use our CRE marketplace services, which could negatively impact our business. Similarly, if we are unable to convince the business and investment community to utilize our online business for-sale marketplaces rather than traditional methods of listing and marketing businesses for-sale, our revenues could be negatively affected.

If we are unable to increase our revenues or our operating costs are higher than expected, our profitability may decline and our operating results may fluctuate significantly. We may not be able to accurately forecast our revenues or future revenue growth rate. Many of our expenses, particularly personnel costs and occupancy costs, are relatively fixed. As a result, we may not be able to adjust spending quickly enough to offset any unexpected increase in expenses or revenue shortfall. We may experience higher than expected operating costs, including increased personnel costs, occupancy costs, selling and marketing costs, investments in geographic expansion, acquisition costs, communications costs, travel costs, software development costs, professional fees and other costs. If operating costs exceed our expectations and cannot be adjusted accordingly, our profitability may be reduced and our results of operations and financial position will be adversely affected. Additionally, we may not be able to sustain our revenue growth rates, and our percentage revenue growth rates may decline. Our ability to increase our revenues and operating profit will depend on increased demand for our services. Our sales are affected by, among other things, general economic and commercial real estate conditions. Reduced demand, whether due to changes in customer preference, a weakening of the U.S. or global economy, competition or other reasons, may result in decreased revenues and growth, adversely affecting our operating results.

Our current or future geographic expansion plans may not result in increased revenues, which may negatively impact our business, results of operations and financial position. Expanding into new markets and investing resources towards increasing the depth of our coverage within existing markets impose additional burdens on our research, systems development, sales, marketing and general managerial resources. If we are unable to manage our expansion efforts effectively, if our expansion efforts take longer than planned or if our costs for these efforts exceed our expectations, our financial position could be adversely affected. In addition, if we incur significant costs to improve data quality within existing markets, or are not successful in marketing and selling our services in these markets or in new markets, our expansion may have a material adverse effect on our financial position by increasing our expenses without increasing our revenues, adversely affecting our profitability.

International operations expose us to additional business risks, which may reduce our profitability. Our international operations and expansion subject us to additional business risks, including: currency exchange rate fluctuations; adapting to the differing business practices and laws in foreign countries; including differing laws regarding privacy and data protection; difficulties in managing foreign operations; limited protection for intellectual property rights in some countries; difficulty in collecting accounts receivable and longer collection periods; costs of enforcing contractual obligations; impact of recessions in economies outside the U.S.; and potentially adverse tax consequences. In addition, international expansion imposes additional burdens on our executive and administrative personnel, systems development, research and sales departments, and general managerial resources. If we are not able to manage our international operations successfully, we may incur higher expenses and our profitability may be reduced. Finally, the investment required for additional international expansion sometimes exceeds the profit generated from such expansion, which reduces our profitability and may adversely affect our financial position.

Fluctuating foreign currencies may negatively impact our business, results of operations and financial position. Due to our international acquisitions and expansion efforts, a portion of our business is denominated in foreign currencies. As a result, fluctuations in foreign currencies may have an impact on our business, results of operations and financial position. Foreign currency exchange rates have fluctuated and may continue to fluctuate. Significant foreign currency exchange rate fluctuations may negatively impact our international revenue, which in turn affects our consolidated revenue. Currencies may be affected by internal factors, general economic conditions and external developments in other countries, all of which can have an adverse impact on a country’s currency. Currently, we are not party to any hedging transactions intended to reduce our exposure to exchange rate fluctuations. We may seek to enter into hedging transactions in the future, but we may be unable to enter into these transactions successfully, on acceptable terms or at all. We cannot predict whether we will incur foreign exchange losses in the future. Further, significant foreign exchange fluctuations resulting in a decline in the respective local currency may decrease the value of our foreign assets, as well as decrease our revenues and earnings from our foreign subsidiaries, which would reduce our profitability and adversely affect our financial position.

The economic effects of “Brexit” may affect relationships with existing and future customers and could have an adverse impact on our business and operating results. On June 23, 2016, the U.K. held a referendum in which British citizens approved an exit from the European Union (“E.U.”), commonly referred to as “Brexit.” On January 31, 2020, the U.K. officially withdrew from the E.U, beginning a transition period of negotiations between the British government and the E.U. and other governments. Uncertainty regarding the U.K.’s withdrawal from the E.U. could cause political and economic uncertainty in the U.K. and the rest of Europe, which could harm our business and financial results. In particular, Brexit could result in significant volatility in global equity markets, currency exchange rates and other asset prices, including those related to real property. The impact to us from Brexit will depend, in part, on the outcome of tariff, trade, regulatory and other negotiations, the results of which are currently uncertain. This impact may affect not only our U.K. operations but operations in other parts of the E.U. Any transitional or permanent agreements resulting from such negotiations could potentially disrupt the markets we serve and the tax jurisdictions in which we operate.

A potential devaluation of the local currencies of our international customers relative to the U.S. dollar may impair the purchasing power of our international customers and could cause international customers to decrease or cancel orders, or terminate or fail to renew subscriptions for our services. We translate sales and other results denominated in foreign currency into U.S. dollars for our financial statements. During periods of a strengthening U.S. dollar, our reported international sales and earnings could be reduced because foreign currencies may translate into fewer U.S. dollars. Resulting asset price volatility that could follow the withdrawal of the U.K. from the E.U. may create global economic uncertainty, which may cause our customers to closely monitor their costs and reduce their spending budgets on our products and services. In addition, Brexit is likely to lead to legal uncertainty and potentially divergent national laws and regulations as the U.K determines which E.U. laws to replace or replicate, and those laws and regulations may be cumbersome, difficult or costly in terms of compliance. Further, Brexit may lead other E.U. member countries to consider referendums regarding their E.U. membership. Any of these effects of Brexit, among others, could adversely affect our business, financial condition, operating results and cash flows.

Changes in laws, regulations or fiscal and tax policies or the manner of their interpretation or enforcement could adversely impact our financial performance. New laws or regulations, or changes in existing laws or regulations, or the manner of their interpretation or enforcement, could increase our cost of doing business. For example, in December 2017, the United States enacted The Tax Cuts and Jobs Act (the "Tax Act"), and various provisions of the new law may adversely affect us. Certain aspects of Tax Reform are unclear and may not be clarified for some time. During 2018, the Department of the Treasury issued certain guidance in the form of notices and proposed regulations with respect to several provisions of the new legislation. We expect that additional regulations or other guidance may be issued with respect to the Tax Act in subsequent years. We continue to examine the impact this tax reform legislation may have on our business. In addition, if federal, state, local or foreign tax authorities change applicable tax laws or issue new guidance, including in response to the Tax Act, our overall taxes could increase, and our business, financial condition or results of operations may be adversely impacted.

Our indebtedness could adversely affect us, including by decreasing our business flexibility and increasing our costs. The 2017 Credit Agreement provides for a $750 million revolving credit facility with a term of five years from a syndicate of financial institutions as lenders and issuing banks. The 2017 Credit Agreement contains customary restrictive covenants imposing operating and financial restrictions on us, including restrictions that may limit our ability to engage in acts that we believe may be in our long-term best interests. These covenants restrict our ability and the ability of our subsidiaries to, among other things, (i) incur additional indebtedness, (ii) create, incur, assume or permit to exist any liens, (iii) enter into mergers, consolidations or similar transactions, (iv) make investments and acquisitions, (v) make certain dispositions of assets, (vi) make dividends, distributions and prepayments of certain indebtedness and (vii) enter into certain transactions with affiliates.

The operating restrictions and financial covenants in the 2017 Credit Agreement and any future financing agreements may limit our ability to finance future operations or capital needs, to engage in other business activities or to respond to changes in market conditions. Our ability to comply with any financial covenants could be affected materially by events beyond our control, and we may be unable to satisfy any such requirements. If we fail to comply with these covenants, we may need to seek waivers or amendments of such covenants, seek alternative or additional sources of financing or reduce our expenditures. We may be unable to obtain such waivers, amendments or alternative or additional financing on a timely basis or at all, or on favorable terms.

We are required to make periodic principal and interest payments pursuant to the terms of the 2017 Credit Agreement. If an event of default occurs, the interest rate on any overdue amounts will increase and the lenders under the 2017 Credit Agreement may declare all outstanding borrowings, together with accrued interest and other fees, to be immediately due and payable and may exercise remedies in respect of the collateral. We may not be able to repay all amounts due under the 2017 Credit Agreement in the event these amounts are declared due upon an event of default.

Negative conditions in the global credit markets may affect the liquidity of a portion of our long-term investments. Currently, our long-term investments include mostly AAA-rated auction rate securities (“ARS”), which are primarily student loan securities supported by guarantees from the Federal Family Education Loan Program (“FFELP”) of the U.S. Department of Education. Continuing negative conditions in the global credit markets have prevented some investors from liquidating their holdings of auction rate securities because the amount of securities submitted for-sale has exceeded the amount of purchase orders for such securities. As of December 31, 2019, we held $11 million par value of ARS, all of which failed to settle at auctions. When an auction fails for ARS in which we have invested, we may be unable to liquidate some or all of these securities at par. In the event we need or desire to immediately access these funds, we will not be able to do so until a future auction on these investments is successful, a buyer is found outside the auction process or an alternative action is determined. If a buyer is found but is unwilling to purchase the investments at par, we may incur a loss, which would reduce our profitability and adversely affect our financial position.

Our operating results and revenues are subject to fluctuations and our quarterly financial results may be subject to market cyclicality, each of which could cause our stock price to be negatively affected. The commercial real estate market may be influenced by general economic conditions, economic cycles, annual seasonality factors and many other factors, which in turn may impact our financial results. The market is large and fragmented. The different sectors of the industry, such as office, industrial, retail, multifamily, and others, are influenced differently by different factors, and have historically moved through economic cycles with different timing. As such, it is difficult to estimate the potential impact of economic cycles and conditions or seasonality from year-to-year on our overall operating results. We generally see higher sales of Apartments.com listing services during the peak summer rental season and higher CoStar Suite sales towards the end of the year, however sales fluctuate from year-to-year. In addition, we generally incur greater marketing expenses during the second quarter, which coincides with the peak season for apartment rentals. The timing of widely observed holidays and vacation periods, particularly slowdowns during the end-of-year holiday period, and availability of real estate agents and related service providers during these periods, could significantly affect our quarterly operating results during that period. If we are unable to adequately respond to economic, seasonal or cyclical conditions, our revenues, expenses and operating results may fluctuate from quarter to quarter. Our operating results, revenues and expenses may fluctuate for many reasons, including those described below and elsewhere in this Annual Report on Form 10-K:

- Rates of subscriber adoption and retention;
- Timing of our sales conference or significant marketing events;
- A slow-down during the end-of-year holiday period;
- Changes in our pricing strategy and timing of changes;
- The timing and success of new service introductions and enhancements;
- The shift of focus from, or phase out of services that overlap or are redundant with other services we offer;
- The amount and timing of our operating expenses and capital expenditures;
- Our ability to control expenses;
- The amount and timing of non-cash stock-based charges;
- Costs related to acquisitions of businesses or technologies or impairment charges associated with such investments and acquisitions;
- Competition;
- Changes or consolidation in the real estate industry;
- Our investments in geographic expansion and to increase coverage in existing markets;
- Interest rate fluctuations;
- Successful execution of our expansion and integration plans;
- The development of our sales force;
- Foreign currency and exchange rate fluctuations;
- Inflation; and
- Changes in client budgets.

These fluctuations could negatively affect our results of operations during the period in question and/or future periods or cause our stock price to decline. In addition, changes in accounting policies or practices may affect our level of net income. Fluctuations in our financial results, revenues and expenses may cause the market price of our common stock to decline.

The consent order approved by the Federal Trade Commission in connection with the LoopNet merger imposes conditions that could have an adverse effect on us and our business, and failure to comply with the terms of the consent order may result in adverse consequences for the combined company. On April 26, 2012, the FTC accepted the consent order in connection with the LoopNet merger that was previously agreed to among the FTC staff, CoStar, and LoopNet on April 17, 2012. The consent order was subject to a 30-day public comment period, and on August 29, 2012, the FTC issued its final acceptance of the consent order.

The consent order, which is publicly available on the FTC's website at http://www.ftc.gov/, requires us to maintain certain business practices that the FTC believes are pro-competitive. For example, the consent order requires us to license our products to customers who have bought its competitors' products on a non-discriminatory basis. In addition, we are required to provide the FTC with advance written notification of certain acquisitions for which notification would not otherwise be required under the Hart-Scott-Rodino Premerger Notification Act. This provision of the consent order requiring CoStar to provide the FTC with advance written notification of certain acquisitions could prevent us from closing certain acquisitions or add significant time and cost to these potential acquisitions, ultimately making an acquisition prohibitive or preventing us from realizing anticipated benefits of an acquisition. In the event that we fail or are unable to comply with the terms of the consent order, we could be subject to an enforcement proceeding that could result in substantial fines and/or injunctive relief.

Changes in accounting and reporting policies or practices may affect our financial results or presentation of results, which may affect our stock price. Changes in accounting and reporting policies or practices could reduce our net income, which reductions may be independent of changes in our operations. These reductions in reported net income could cause our stock price to decline.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our headquarters is located at 1331 L Street, NW, in downtown Washington, DC, where we occupy approximately 159,331 square feet of office space, with a lease that expires May 31, 2025 (with two 5-year renewal options). Our headquarters is used primarily by our North America operating segment. Our principal facility in the U.K. is located in London, where we occupy 23,064 square feet of office space. Our lease for this facility has a term ending August 31, 2025. This facility is used by our International operating segment.

We also operate our research functions out of leased office spaces in Richmond, Virginia; San Diego, California; and Atlanta, Georgia. Additionally, we lease office space in a variety of other metropolitan areas. These locations include, among others, the following: Hendersonville, Tennessee; Irvine, California; Boston, Massachusetts; San Francisco, California; Ontario, California; and Los Angeles, California.

We believe these facilities are suitable and appropriately support our business needs.

Item 3. Legal Proceedings

Currently, and from time to time, we are involved in litigation incidental to the conduct of our business. We are not currently a party to any lawsuit or proceeding that, in the opinion of our management based on consultations with legal counsel, is likely to have a material adverse effect on our financial position or results of operations.

Item 4. Mine Safety Disclosures

Not Applicable.

PART II

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

Our common stock is traded on the Nasdaq Global Select Market under the symbol "CSGP." As of January 31, 2020, there were 1,527 holders of record of our common stock.

Dividend Policy. We have never declared or paid any dividends on our common stock. We do not anticipate paying any dividends on our common stock during the foreseeable future, but intend to retain any earnings for future growth of our business.

Recent Issues of Unregistered Securities. We did not issue any unregistered securities during the years ended December 31, 2018 and 2019 other than as disclosed in our Current Report on Form 8-K filed with the SEC on February 21, 2018.

Issuer Purchases of Equity Securities. The following table is a summary of our repurchases of common stock during each of the three months in the quarter ended December 31, 2019:

ISSUER PURCHASES OF EQUITY SECURITIES

Month, 2019	Total Number of Shares Purchased		Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs
October 1 through 31	1,609		$594.50	—	—
November 1 through 30	1,221		568.88	—	—
December 1 through 31	1,481		596.27	—	—
Total	4,311	(1)	$587.85	—	—

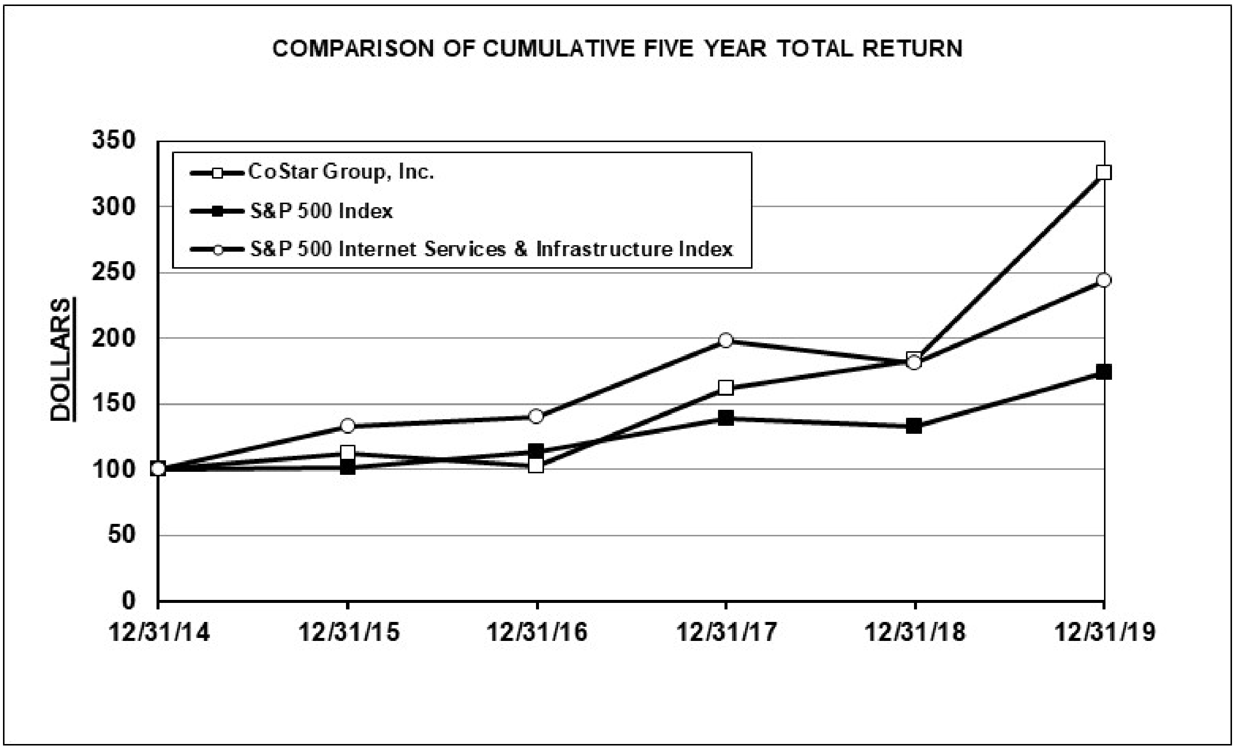
(1) The number of shares purchased consists of shares of common stock tendered by employees to the Company to satisfy the employees' minimum tax withholding obligations arising as a result of vesting of restricted stock grants under the Company's 2007 Stock Incentive Plan, as amended (the "2007 Plan"), and the Company's 2016 Stock Incentive Plan, as amended, which shares were purchased by the Company based on their fair market value on the trading day immediately preceding the vesting date. None of these share purchases were part of a publicly announced program to purchase common stock of the Company.

Stock Price Performance Graph

The stock performance graph below shows how an initial investment of $100 in our common stock would have compared to:

- An equal investment in the Standards & Poor's Stock 500 ("S&P 500") Index; and
- An equal investment in the S&P 500 Internet Services & Infrastructure Index.

The comparison covers the period beginning December 31, 2014, and ending on December 31, 2019, and assumes the reinvestment of any dividends. Note that this performance is historical and is not necessarily indicative of future price performance.



Company / Index	12/31/14	12/31/15	12/31/16	12/31/17	12/31/18	12/31/19
CoStar Group, Inc.	$ 100.00	$ 112.56	$ 102.65	$ 161.71	$ 183.71	$ 325.82
S&P 500 Index	100.00	101.38	113.51	138.29	132.23	173.86
S&P 500 Internet Services & Infrastructure Index [1]	100.00	133.32	140.22	197.36	180.67	242.93

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[1] As a result of revisions to the Global Industry Classification Standards, we now prepare the comparison above using the S&P 500 Internet Services & Infrastructure index. This index replaced the discontinued Internet Software & Services index that we used previously; however, the S&P 500 Internet Services & Infrastructure index uses the historical information from the discontinued index. Therefore, there is no change in the historical data presented under the index.

Item 6. Selected Financial Data

Selected Financial Data
(in thousands, except per share data)

The following table provides selected consolidated financial data for the five years ended December 31, 2019. The consolidated statements of operations data shown below for each of the three years ended December 31, 2019, 2018 and 2017 and the consolidated balance sheet data as of December 31, 2019 and 2018 are derived from audited consolidated financial statements that are included in this report. The consolidated statements of operations data for each of the years ended 2016 and 2015 and the consolidated balance sheet data as of December 31, 2017, 2016 and 2015 shown below are derived from audited consolidated financial statements for those years that are not included in this report. Information about prior period acquisitions and the adoption of recent accounting pronouncements that may affect the comparability of the selected financial information presented below are included in "Item 1. Business" and Note 2 to the Notes to the Consolidated Financial Statements included in Part IV of this Annual Report on Form 10-K. The total assets and total long-term liabilities reported in the consolidated balance sheet data have been reclassified to conform to our current presentation as a result of the retrospective application of the authoritative guidance to simplify the presentation of debt issuance costs.

The following data should be read in conjunction with "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations," "Item 8. Financial Statements and Supplementary Data," and the other information contained elsewhere in this Annual Report on Form 10-K.

	Year Ended December 31,				
Consolidated Statements of Operations Data:	**2015**	**2016**	**2017**	**2018**	**2019**
Revenues	$ 711,764	$ 837,630	$ 965,230	$ 1,191,832	$ 1,399,719
Cost of revenues	188,885	173,814	220,403	269,933	289,239
Gross profit	522,879	663,816	744,827	921,899	1,110,480
Operating expenses	511,424	518,911	571,011	648,335	746,933
Income from operations	11,455	144,905	173,816	273,564	363,547
Interest and other income	537	1,773	4,044	13,281	30,017
Interest and other expense	(9,411)	(10,016)	(9,014)	(2,830)	(2,615)
Loss on debt extinguishment	—	—	(3,788)	—	—
Income before income taxes	2,581	136,662	165,058	284,015	390,949
Income tax expense	6,046	51,591	42,363	45,681	75,986
Net income (loss)	$ (3,465)	$ 85,071	$ 122,695	$ 238,334	$ 314,963
Net income (loss) per share — basic	$ (0.11)	$ 2.64	$ 3.70	$ 6.61	$ 8.67
Net income (loss) per share — diluted	$ (0.11)	$ 2.62	$ 3.66	$ 6.54	$ 8.60
Weighted average shares outstanding — basic	31,950	32,167	33,200	36,058	36,310
Weighted average shares outstanding — diluted	31,950	32,436	33,559	36,448	36,630

	As of December 31,				
Consolidated Balance Sheet Data:	**2015**	**2016**	**2017**	**2018**	**2019**
Cash, cash equivalents and long-term investments	$ 437,325	$ 577,175	$ 1,221,533	$ 1,110,486	$ 1,080,801
Working capital	337,452	472,545	1,141,269	1,059,139	992,109
Total assets	2,079,571	2,185,063	2,873,441	3,312,957	3,853,986
Total long-term liabilities	400,510	375,904	75,525	136,856	241,337
Stockholders' equity	1,543,780	1,654,213	2,651,250	3,021,942	3,405,593

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

The following Management’s Discussion and Analysis of Financial Condition and Results of Operations contains “forward-looking statements,” including statements about our beliefs and expectations. There are many risks and uncertainties that could cause actual results to differ materially from those discussed in the forward-looking statements. Potential factors that could cause actual results to differ materially from those discussed in any forward-looking statements include, but are not limited to, those stated above in Item 1A. under the headings “Risk Factors - Cautionary Statement Concerning Forward-Looking Statements” and “Risk Factors,” as well as those described from time to time in our filings with the Securities and Exchange Commission.

All forward-looking statements are based on information available to us on the date of this filing and we assume no obligation to update such statements, whether as a result of new information, future events or otherwise. The following discussion should be read in conjunction with our Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and other filings with the Securities and Exchange Commission and the consolidated financial statements and related notes included in this Annual Report on Form 10-K.

Overview

Our principal information, analytics and online marketplace services are described in the following paragraphs by type of service:

Information and Analytics

CoStar Suite®. Our subscription-based information services consist primarily of CoStar Suite services. CoStar Suite is sold as a platform of service offerings consisting of CoStar Property®, CoStar COMPS®, CoStar Market Analytics, CoStar Tenant®, CoStar Lease Comps and CoStar Public Record through our mobile applications. Our integrated suite of online service offerings includes information about space available for-lease, comparable sales information, information about properties for-sale, tenant information, Internet marketing services, analytical capabilities, information for clients' websites, information about industry professionals and their business relationships, and industry news. Our sales force is responsible for selling multiple product lines, including CoStar Suite and LoopNet. During 2020, we plan to shift the focus of our sales force to sales of LoopNet Signature Ads. As a result, we anticipate CoStar Suite revenue growth will moderate during the year.

Information services. We provide real estate and lease management solutions, including lease administration and abstraction services, through our CoStar Real Estate Manager® service offerings, as well as portfolio and debt analysis, management and reporting capabilities through our CoStar Investment Analysis and CoStar Risk Analytics® service offerings. We provide information services internationally, through our Grecam, Belbex and Thomas Daily businesses in France, Spain and Germany, respectively. Sales of CoStar Real Estate Manager represent a significant portion of our information services revenue. CoStar Real Estate Manager's revenue growth rates increased significantly in 2018 as new clients adopted, and existing clients expanded their use of, CoStar Real Estate Manager to manage compliance with new lease accounting and reporting requirements which became effective for public companies for financial reporting periods beginning after December 15, 2018. As a result, we expect the growth rate for CoStar Real Estate Manager to normalize as the initial surge of the demand has eased. On October 22, 2019, we acquired STR and we now also provide STR’s complementary benchmarking and analytics services to the hospitality industry. We expect that the acquisition of STR and the combination of STR's and CoStar's offerings will allow us to create valuable new and improved tools for industry participants. See Note 4 to the accompanying Notes to the Consolidated Financial Statements included in Part IV of this Annual Report on Form 10-K for further discussion of the acquisition of STR.

Online Marketplaces

Multifamily. Apartments.com™ is part of our network of apartment marketing sites, which primarily includes ApartmentFinder®, ForRent.com®, ApartmentHomeLiving.com™, Apartamentos.com™, Westside Rentals and Off Campus Partners, LLC ("OCP"). Our apartment marketing network of subscription-based services offers renters a searchable database of apartment listings and provides professional property management companies and landlords with an advertising destination. On February 21, 2018, we completed the acquisition of ForRent, a division of Dominion Enterprises, including the ForRent.com, AFTER55.com, CorporateHousing.com and ForRentUniversity.com apartment marketing sites. On November 8, 2018, we acquired Cozy Services, Ltd. ("Cozy"), a provider of online rental solutions that provides a broad spectrum of services to both landlords and tenants, including property listings, rent estimates, rental applications, tenant screening, online rent payments and expense tracking. On June 12, 2019, we acquired OCP, a provider of student housing marketplace content and technology to U.S. universities. We expect the multifamily annual revenue growth rate to remain consistent with 2019 as we have fully integrated our ForRent and Cozy acquisitions into our service offerings. We continue to work on integrating the OCP acquisition and the services they offer into our Apartments.com network. See Note 4 to the accompanying Notes to the Consolidated Financial Statements included in Part IV of this Annual Report on Form 10-K for further discussion of these acquisitions.

Commercial property and land. Our LoopNet.com network of commercial real estate websites offer subscription-based, online marketplace services that enable commercial property owners, landlords and real estate agents working on their behalf to list properties for-sale or for-lease and to submit detailed information about property listings. Commercial real estate agents, buyers and tenants use the LoopNet.com network of online marketplace services to search for available property listings that meet their criteria. As part of our rebuild and launch of the LoopNet Signature Ads product, we rolled out new packages in the fourth quarter of 2019. As a result, the growth rate increased in the fourth quarter of 2019, and LoopNet is expected to continue to grow in the subsequent periods. In addition, on October 12, 2018, we acquired all of the issued share capital of Realla Ltd. ("Realla"), the operator of a commercial property listings and data management platform in the U.K., including a free-to-list search engine for commercial property listings. See Note 4 to the accompanying Notes to the Consolidated Financial Statements included in Part IV of this Annual Report on Form 10-K for further discussion of the acquisition of Realla. Our BizBuySell.com network, which includes BizQuest® and FindaFranchise, provides online marketplaces for businesses for-sale. Our Land.com network of sites, which provides online marketplaces for rural lands for-sale, includes LandsofAmerica, LandAndFarm and LandWatch®.

For the years ended December 31, 2019, 2018 and 2017 our annualized net new bookings of subscription-based services on all contracts were approximately $210 million, $169 million and $148 million, respectively, calculated based on the annualized amount of change in our sales resulting from all new subscription-based contracts or upsales on all existing subscription-based contracts, less write downs and cancellations, for the period reported. We recognize subscription revenues on a straight-line basis over the life of the contract. Net bookings is considered a key indicator of future subscription revenue growth and is also used as a metric of salesforce productivity by management and investors.

For the years ended December 31, 2019, 2018 and 2017, our contract renewal rate for existing CoStar subscription-based services on annual contracts was approximately 90%, 90% and 91% respectively, and, therefore, our cancellation rate for those services was approximately 10%, 10%, and 9%, respectively. Our contract renewal rate is a quantitative measurement that is typically closely correlated with our revenue results. As a result, management also believes that the rate may be a reliable indicator of short-term and long-term performance. Our trailing twelve-month contract renewal rate may decline if, among other reasons, negative economic conditions lead to greater business failures and/or consolidations among our clients, reductions in customer spending, or decreases in our customer base.

Development, Investments and Expansion

We are committed to supporting, improving and enhancing our information, analytics and online marketplace solutions, including expanding and improving our offerings for property owners, property managers and renters. We expect to continue our software development efforts to improve existing services, introduce new services, integrate and cross-sell services, and expand and develop supporting technologies for our research, sales and marketing organizations.

Our key priorities for 2020 include:

- Continue to develop, improve and market our recently launched Apartments.com service offerings that focus on the digital rental experience and enable renters to apply for-leases, and for landlords to run tenant credit and background checks and make rent payments, all online through a single platform. We plan to aggressively market our multifamily listing services in an effort to provide more value to advertisers and, in turn, to attract advertisers. As such, we plan to increase our investment in Apartments.com marketing in 2020 by approximately $100 million, which may reduce our margins and profitability while we invest in future growth. The increased investment is focused on search engine marketing and enhanced brand awareness. We also plan to continue to invest in our multifamily business by increasing the size of our sales force with a focus on increasing sales to midsize and smaller apartment communities.

- Obtaining necessary bankruptcy court and regulatory approvals to close the pending acquisition of RentPath and integrating RentPath with the Apartments.com network post-closing. On February 11, 2020, a wholly owned subsidiary of the Company entered into an agreement to acquire for $588 million in cash all of the equity interests of RentPath Holdings, Inc., as reorganized following an internal restructuring pursuant to and under the joint chapter 11 plan of reorganization of RentPath and certain of its subsidiaries. Closing of the acquisition is subject to customary closing conditions, including the expiration or termination of any applicable waiting period under applicable antitrust laws and approval by the bankruptcy court. See Note 19 to the accompanying Notes to the Consolidated Financial Statements included in Part IV of this Annual Report on Form 10-K for further discussion.

- Continue to invest in the LoopNet marketplace by enhancing the content on the site (including high-quality imagery), seeking targeted advertisements, providing premium listing services (such as LoopNet Signature Ads) that increase a property listing’s exposure, and adding more content for premium listings to better meet the needs of a broader cross section of the commercial real estate industry. Additionally, we initiated training and incentive programs for our sales team to increase sales of LoopNet Signature Ads, with a focus on property owners.

- Integrating recently completed acquisitions, including STR, with CoStar’s business operations. We plan to consolidate STR data and services with CoStar Suite to create an integrated platform. We plan to drive international expansion, in part, through STR's global operations and to apply STR's benchmarking expertise to other commercial real estate segments served by CoStar.

- Continue to invest in CoStar Suite, including capabilities that allow us to broaden the reach of CoStar Suite in Europe by offering multiple languages and currencies on the platform. We plan to enhance CoStar Suite by making additional investments in analytical capabilities focused on owners and lenders of commercial real estate. In addition, we plan to invest in integrating the technology and infrastructure from other existing service offerings into the CoStar Suite platform, including CoStar Real Estate Manager, in order to leverage data and technology across our platforms and provide customers with additional functionality.

We intend to continue to assess the need for additional investments in our business, in addition to the investments discussed above, in order to develop and distribute new services and functionality within our current platform or expand the reach of, or otherwise improve, our current service offerings. Any future product development or expansion of services, combination and coordination of services or elimination of services or corporate expansion, development or restructuring efforts could reduce our profitability and increase our capital expenditures. Any new investments, changes to our service offerings or other unforeseen events could cause us to experience reduced revenues or generate losses and negative cash flow from operations in the future. Any development efforts must comply with our credit facility, which contains restrictive covenants that restrict our operations and use of our cash flow and may prevent us from taking certain actions that we believe could increase our profitability or otherwise enhance our business.

For further discussion of our Company, strategy and products, see our business overview set forth in "Item 1. Business" in this Annual Report on Form 10-K.

Non-GAAP Financial Measures

We prepare and publicly release quarterly unaudited financial statements prepared in accordance with generally accepted accounting principles (“GAAP”). We also disclose and discuss certain non-GAAP financial measures in our public releases, investor conference calls and filings with the Securities and Exchange Commission. The non-GAAP financial measures that we may disclose include net income before interest and other income (expense), loss on debt extinguishment, income taxes, depreciation and amortization (“EBITDA”), adjusted EBITDA, adjusted EBITDA margin, non-GAAP net income and non-GAAP net income per diluted share. EBITDA is our net income before interest and other income (expense), loss on debt extinguishment, income taxes, depreciation and amortization. We typically disclose EBITDA on a consolidated and an operating segment basis in our earnings releases, investor conference calls and filings with the Securities and Exchange Commission. Adjusted EBITDA is different from EBITDA because we further adjust EBITDA for stock-based compensation expense, acquisition- and integration-related costs for pending and completed acquisitions, restructuring costs and settlements and impairments incurred outside our ordinary course of business. Non-GAAP net income is determined by adjusting our net income for stock-based compensation expense, acquisition- and integration-related costs for pending and completed acquisitions, restructuring costs, settlement and impairment costs incurred outside our ordinary course of business and loss on debt extinguishment, as well as amortization of acquired intangible assets and other related costs, and then subtracting an assumed provision for income taxes. We may disclose adjusted EBITDA, adjusted EBITDA margin, non-GAAP net income and non-GAAP net income per diluted share on a consolidated basis in our earnings releases, investor conference calls and filings with the Securities and Exchange Commission. The non-GAAP financial measures that we use may not be comparable to similarly titled measures reported by other companies. Also, in the future, we may disclose different non-GAAP financial measures in order to help our investors meaningfully evaluate and compare our results of operations to our previously reported results of operations or to those of other companies in our industry.

We view EBITDA, adjusted EBITDA, non-GAAP net income and non-GAAP net income per diluted share as operating performance measures and as such we believe that the most directly comparable GAAP financial measure to EBITDA, adjusted EBITDA and non-GAAP net income is net income. We believe the most directly comparable GAAP financial measures to non-GAAP net income per diluted share and adjusted EBITDA margin are net income per diluted share and net income divided by revenue, respectively. In calculating EBITDA, adjusted EBITDA, adjusted EBITDA margin, non-GAAP net income and non-

GAAP net income per diluted share, we exclude from net income the financial items that we believe should be separately identified to provide additional analysis of the financial components of the day-to-day operation of our business. We have outlined below the type and scope of these exclusions and the material limitations on the use of these non-GAAP financial measures as a result of these exclusions. EBITDA, adjusted EBITDA, adjusted EBITDA margin, non-GAAP net income and non-GAAP net income per diluted share are not measurements of financial performance under GAAP and should not be considered as a measure of liquidity, as an alternative to net income or as an indicator of any other measure of performance derived in accordance with GAAP. Investors and potential investors in our securities should not rely on EBITDA, adjusted EBITDA, adjusted EBITDA margin, non-GAAP net income and non-GAAP net income per diluted share as a substitute for any GAAP financial measure, including net income and net income per diluted share. In addition, we urge investors and potential investors in our securities to carefully review the GAAP financial information included as part of our Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q that are filed with the Securities and Exchange Commission, as well as our quarterly earnings releases, and compare the GAAP financial information with our EBITDA, adjusted EBITDA, adjusted EBITDA margin, non-GAAP net income and non-GAAP net income per diluted share.

EBITDA, adjusted EBITDA, adjusted EBITDA margin, non-GAAP net income and non-GAAP net income per diluted share may be used by management to internally measure our operating and management performance and may be used by investors as supplemental financial measures to evaluate the performance of our business. We believe that these non-GAAP measures, when viewed with our GAAP results and accompanying reconciliations, provide additional information to investors that is useful to understand the factors and trends affecting our business. We have spent more than 30 years building our database of commercial real estate information and expanding our markets and services partially through acquisitions of complementary businesses. Due to the expansion of our information, analytics and online marketplace services, which has included acquisitions, our net income has included significant charges for amortization of acquired intangible assets, depreciation and other amortization, acquisition- and integration-related costs for pending and completed acquisitions, restructuring costs, and loss on debt extinguishment. Adjusted EBITDA, adjusted EBITDA margin, non-GAAP net income and non-GAAP net income per diluted share exclude these charges and provide meaningful information about the operating performance of our business, apart from charges for amortization of acquired intangible assets, depreciation and other amortization, acquisition- and integration-related costs for pending and completed acquisitions, restructuring costs; settlement and impairment costs incurred outside our ordinary course of business. We believe the disclosure of non-GAAP measures can help investors meaningfully evaluate and compare our performance from quarter to quarter and from year to year. We also believe the non-GAAP measures we disclose are measures of our ongoing operating performance because the isolation of non-cash charges, such as amortization and depreciation, and other items, such as interest, income taxes, stock-based compensation expenses, acquisition- and integration-related costs for pending and completed acquisitions, restructuring costs; loss on debt extinguishment and settlement and impairment costs incurred outside our ordinary course of business, provides additional information about our cost structure, and, over time, helps track our operating progress. In addition, investors, securities analysts and others have regularly relied on EBITDA and may rely on adjusted EBITDA, adjusted EBITDA margin, non-GAAP net income or non-GAAP net income per diluted share to provide a financial measure by which to compare our operating performance against that of other companies in our industry.

Set forth below are descriptions of financial items that have been excluded from net income to calculate EBITDA and the material limitations associated with using this non-GAAP financial measure as compared to net income:

- Amortization of acquired intangible assets in cost of revenues may be useful for investors to consider because it represents the diminishing value of any acquired trade names and other intangible assets and the use of our acquired technology, which is one of the sources of information for our database of commercial real estate information. We do not believe these charges necessarily reflect the current and ongoing cash charges related to our operating cost structure.

- Amortization of acquired intangible assets in operating expenses may be useful for investors to consider because it represents the estimated attrition of our acquired customer base. We do not believe these charges necessarily reflect the current and ongoing cash charges related to our operating cost structure.

- Depreciation and other amortization may be useful for investors to consider because they generally represent the wear and tear on our property and equipment used in our operations. We do not believe these charges necessarily reflect the current and ongoing cash charges related to our operating cost structure.

- The amount of interest and other income and expense we generate and incur may be useful for investors to consider and may result in current cash inflows and outflows. However, we do not consider the amount of interest and other income and expense to be a representative component of the day-to-day operating performance of our business.

- Income tax expense may be useful for investors to consider because it generally represents the taxes which may be payable for the period and the change in deferred income taxes during the period and may reduce the amount of funds otherwise available for use in our business. However, we do not consider the amount of income tax expense to be a representative component of the day-to-day operating performance of our business.

- The amount of loss on our debt extinguishment may be useful for investors to consider because it generally represents losses from the early extinguishment of debt. However, we do not consider the amount of the loss on debt extinguishment to be a representative component of the day-to-day operating performance of our business.

Set forth below are descriptions of additional financial items that have been excluded from EBITDA to calculate adjusted EBITDA and the material limitations associated with using this non-GAAP financial measure as compared to net income:

- Stock-based compensation expense may be useful for investors to consider because it represents a portion of the compensation of our employees and executives. Determining the fair value of the stock-based instruments involves a high degree of judgment and estimation and the expenses recorded may bear little resemblance to the actual value realized upon the future exercise or termination of the related stock-based awards. Therefore, we believe it is useful to exclude stock-based compensation in order to better understand the long-term performance of our core business.

- The amount of acquisition- and integration- related costs for pending and completed acquisitions incurred may be useful for investors to consider because such costs generally represent professional service fees and direct expenses related to acquisitions. Because we do not acquire businesses on a predictable cycle, we do not consider the amount of acquisition- and integration- related costs for pending and completed acquisitions to be a representative component of the day-to-day operating performance of our business.

- The amount of settlement and impairment costs incurred outside of our ordinary course of business may be useful for investors to consider because they generally represent gains or losses from the settlement of litigation matters or impairments on acquired intangible assets. We do not believe these charges necessarily reflect the current and ongoing cash charges related to our operating cost structure.

- The amount of restructuring costs incurred may be useful for investors to consider because they generally represent costs incurred in connection with a change in a contract or a change in the makeup of our properties or personnel. We do not consider the amount of restructuring related costs to be a representative component of the day-to-day operating performance of our business.

The financial items that have been excluded from our net income to calculate non-GAAP net income and non-GAAP net income per diluted share are amortization of acquired intangible assets and other related costs, stock-based compensation, acquisition- and integration- related costs for pending and completed acquisitions, restructuring and related costs and settlement and impairment costs incurred outside our ordinary course of business. These items are discussed above with respect to the calculation of adjusted EBITDA together with the material limitations associated with using this non-GAAP financial measure as compared to net income. In addition to these exclusions from net income, we subtract an assumed provision for income taxes to calculate non-GAAP net income. In 2019 and 2018, we assumed a 25% tax rate which approximated our historical long-term statutory corporate tax rate, excluding the impact of discrete items.

Adjusted EBITDA margin represents adjusted EBITDA divided by revenues for the period.

Non-GAAP net income per diluted share is a non-GAAP financial measure that represents non-GAAP net income divided by the number of diluted shares outstanding for the period used in the calculation of GAAP net income per diluted share.

Management compensates for the above-described limitations of using non-GAAP measures by using a non-GAAP measure only to supplement our GAAP results and to provide additional information that is useful to understand the factors and trends affecting our business.

The following table shows our net income reconciled to our EBITDA and our net cash flows from operating, investing and financing activities for the indicated periods (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Net income	$ 314,963	$ 238,334	$ 122,695
Amortization of acquired intangible assets in cost of revenues	21,357	20,586	19,707
Amortization of acquired intangible assets in operating expenses	33,995	30,881	17,684
Depreciation and other amortization	25,813	26,276	26,252
Interest and other income	(30,017)	(13,281)	(4,044)
Interest and other expense	2,615	2,830	9,014
Loss on debt extinguishment	—	—	3,788
Income tax expense	75,986	45,681	42,363
EBITDA	$ 444,712	$ 351,307	$ 237,459
Net cash flows provided by (used in)			
Operating activities	$ 457,780	$ 335,458	$ 234,703
Investing activities	$ (483,753)	$ (448,001)	$ (72,267)
Financing activities	$ (4,154)	$ 2,744	$ 480,430

Consolidated Results of Operations

The following table provides our selected consolidated results of operations for the indicated periods (in thousands of dollars and as a percentage of total revenue):

	Year Ended December 31,					
	2019		2018		2017	
Revenues	$ 1,399,719	100 %	$ 1,191,832	100 %	$ 965,230	100 %
Cost of revenues	289,239	21	269,933	23	220,403	23
Gross profit	1,110,480	79	921,899	77	744,827	77
Operating expenses:						
Selling and marketing (excluding customer base amortization)	408,596	29	359,858	30	318,362	33
Software development	125,602	9	100,937	8	88,850	9
General and administrative	178,740	13	156,659	13	146,128	15
Customer base amortization	33,995	2	30,881	3	17,671	2
Total operating expenses	746,933	53	648,335	54	571,011	59
Income from operations	363,547	26	273,564	23	173,816	18
Interest and other income	30,017	2	13,281	1	4,044	—
Interest and other expense	(2,615)	—	(2,830)	—	(9,014)	(1)
Loss on debt extinguishment	—	—	—	—	(3,788)	—
Income before income taxes	390,949	28	284,015	24	165,058	17
Income tax expense	75,986	5	45,681	4	42,363	4
Net income	$ 314,963	23 %	$ 238,334	20 %	$ 122,695	13 %

The following table provides our revenues by type of service (in thousands of dollars and as a percentage of total revenue):

	Year Ended December 31,					
	2019		2018		2017	
Information and analytics						
CoStar Suite [(1)]	$617,798	44%	$545,195	46%	$ 463,185	48%
Information services [(1)]	88,446	6%	67,624	6%	72,618	8%
Online marketplaces						
Multifamily [(1)]	490,631	35%	405,795	34%	279,855	29%
Commercial property and land [(1)]	202,844	15%	173,218	14%	149,572	15%
Total revenues	$ 1,399,719	100%	$ 1,191,832	100%	$ 965,230	100%

[(1)] For further discussion of our Company, strategy and products, see our business overview set forth in "Item 1. Business" in this Annual Report on Form 10-K.

Comparison of Year Ended December 31, 2019 and Year Ended December 31, 2018

The following table provides a comparison of our selected consolidated results of operations for the year ended December 31, 2019 and 2018 (in thousands of dollars):

	2019	2018	Increase (Decrease) ($)	Increase (Decrease) (%)
Revenues				
CoStar Suite	$ 617,798	$545,195	$ 72,603	13 %
Information services	88,446	67,624	20,822	31
Multifamily	490,631	405,795	84,836	21
Commercial property and land	202,844	173,218	29,626	17
Total revenues	1,399,719	1,191,832	207,887	17
Cost of revenues	289,239	269,933	19,306	7
Gross profit	1,110,480	921,899	188,581	20
Operating expenses:				
Selling and marketing (excluding customer base amortization)	408,596	359,858	48,738	14
Software development	125,602	100,937	24,665	24
General and administrative	178,740	156,659	22,081	14
Customer base amortization	33,995	30,881	3,114	10
Total operating expenses	746,933	648,335	98,598	15
Income from operations	363,547	273,564	89,983	33
Interest and other income	30,017	13,281	16,736	NM
Interest and other expense	(2,615)	(2,830)	(215)	(8)
Income before income taxes	390,949	284,015	106,934	38
Income tax expense	75,986	45,681	30,305	66
Net income	$ 314,963	$ 238,334	$ 76,629	32 %

NM - Not meaningful

Revenues. Revenues increased to $1.4 billion in 2019, from $1.2 billion in 2018. The $208 million increase was primarily attributable to an $85 million, or 21%, increase in multifamily revenue. The multifamily increase was due to upgrades of existing customer packages to higher value advertising packages, higher volume as a result of recent investments in marketing, and to a lesser extent, growth from the acquisitions of Cozy and OCP. CoStar Suite revenues increased $73 million, or 13%, primarily due to further increases in pricing and, to a lesser extent, further market penetration and cross-selling of our services. Commercial property and land revenue increased $30 million, or 17%, primarily due to growth in our LoopNet online marketplace services of $23 million, as well as, growth in our land and businesses for-sale services of $6 million. Information services revenue increased $21 million, or 31%, primarily due to increased revenue of $13 million from our CoStar Real Estate Manager service offerings and $9 million due to the acquisition of STR.

Gross Profit. Gross profit increased to $1.1 billion in 2019, from $922 million in 2018. The gross profit percentage was 79% for 2019 compared to 77% for 2018 as revenues increased at a higher rate than cost of revenues. The increase in cost of revenues of $19 million, or 7%, was primarily due to additional merchant fees and data and content costs of $9 million, primarily attributable to the acquisition of Cozy, additional personnel costs of $8 million and additional costs for research equipment of $3 million. The increase from the prior year was partially offset by nonrecurring research personnel restructuring costs incurred in the prior year of $3 million.

Selling and Marketing Expenses. Selling and marketing expenses increased to $409 million in 2019, from $360 million in 2018. The increase was primarily attributable to $41 million in additional marketing spend, including $23 million in search engine marketing, $7 million in co-branding and $11 million in other forms of marketing, primarily for Apartments.com. The increase was also due to a $5 million increase in personnel costs driven by increased headcount, partially offset by higher severance and retention costs incurred in 2018 related to the acquisition of ForRent.

Software Development Expenses. Software development expenses increased to $126 million in 2019, from $101 million in 2018, and increased as a percentage of revenues to 9% in 2019, compared to 8% in 2018. The increase in the amount of software development expense was primarily due to a $22 million increase in personnel costs as a result of increased headcount to enhance our product offerings, including $2 million due to the acquisition of STR.

General and Administrative Expenses. General and administrative expenses increased to $179 million in 2019, from $157 million in 2018, and remained consistent as a percentage of revenues at 13% in 2019 and 2018. The increase in general and administrative expenses was primarily due to personnel costs of $12 million due to increased headcount, $4 million as a result of the acquisition of STR, bad debt expense of $4 million, additional software and equipment of $4 million, depreciation expense of $2 million and travel and conference expenses of $1 million each, partially offset by a $5 million decrease in professional services.

Customer Base Amortization Expense. Customer base amortization expense increased to $34 million in 2019, from $31 million in 2018, and decreased as a percentage of revenues to 2% in 2019, compared to 3% in 2018. The increase in customer base amortization expense was primarily due to the STR acquisition.

Interest and Other Income. Interest and other income increased to $30 million in 2019, from $13 million in 2018. The increase was primarily due to $11 million in legal settlement proceeds received during 2019, as well as, higher rates of return and average cash and cash equivalent balances during 2019 compared to 2018.

Interest and Other Expense. Interest and other expense remained consistent for 2019 and 2018, and primarily consists of commitment fees and amortization of debt issuance costs.

Income Tax Expense. Income tax expense increased to $76 million in 2019, from $46 million in 2018. The increase was primarily due to higher income before income taxes for 2019, and to a lesser extent, discrete items for higher state research and development tax credits recognized for 2018. The effective tax rate for 2019 was 19%, compared to 16% in 2018 and lower than the statutory rates due to discrete items including research and development credits as well as excess tax benefits.

For a comparison of the Company’s results of operations for the fiscal year ended December 31, 2018 to the year ended December 31, 2017, see Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations in the Company’s Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the U.S. Securities and Exchange Commission on February 28, 2019.

Comparison of Business Segment Results for Year Ended December 31, 2019 and Year Ended December 31, 2018

We manage our business geographically in two operating segments, with the primary areas of measurement and decision-making being North America, which includes the U.S. and Canada, and International, which primarily includes Europe, Asia-Pacific and Latin America. Management relies on an internal management reporting process that provides revenue and operating segment net income before interest and other income (expense), loss on debt extinguishment, income taxes, depreciation and amortization (“EBITDA”). Management believes that operating segment EBITDA is an appropriate measure for evaluating the operational performance of our operating segments. EBITDA is used by management to internally measure operating and management performance and to evaluate the performance of the business. However, this measure should be considered in addition to, not as a substitute for or superior to, income from operations or other measures of financial performance prepared in accordance with GAAP.

Segment Revenues. North America revenues increased to $1.4 billion for the year ended December 31, 2019, from $1.2 billion for the year ended December 31, 2018. The increase in North America revenues was primarily due to a $85 million increase in multifamily revenues driven by the sale of higher value advertising packages and volume, and to a lesser extent, the acquisition of Cozy, and continued organic growth in CoStar Suite revenues of $71 million. There were also increases of $29 million and $18 million in commercial property and land and information services, respectively, primarily due to growth in our LoopNet and CoStar Real Estate Manager service offerings, and to a lesser extent, the acquisition of STR. International revenues increased to $40 million for the year ended December 31, 2019, from $35 million for the year ended December 31, 2018. The increase in International revenues was primarily due the acquisition of STR and further growth of our subscription-based services.

Segment EBITDA. North America EBITDA increased to $452 million for the year ended December 31, 2019, from $358 million for the year ended December 31, 2018. The increase in North America EBITDA was due primarily to an increase in revenues, partially offset by increases in personnel and marketing costs. International EBITDA remained consistent at a loss of $7 million for the years ended December 31, 2019 and December 31, 2018.

For a comparison of the Company’s business segment results of operations for the fiscal year ended December 31, 2018 to the year ended December 31, 2017, see Item 7, Management’s Discussion and Analysis of Financial Condition and Results of

Operations in the Company’s Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the U.S. Securities and Exchange Commission on February 28, 2019.

Consolidated Quarterly Results of Operations

The following tables present our unaudited consolidated results of operations on a quarterly basis for the indicated periods (in thousands, except per share amounts, and as a percentage of total revenues). These tables should be read in conjunction with the consolidated financial statements and related notes included in this Annual Report on Form 10-K. The quarterly results of historical periods are not necessarily indicative of quarterly results for any future period.

	2019				2018			
	Mar. 31	Jun. 30	Sep. 30	Dec. 31	Mar. 31	Jun. 30	Sep. 30	Dec. 31
Revenues	$328,425	$ 343,760	$ 352,808	$ 374,726	$ 273,718	$ 297,018	$ 305,525	$ 315,571
Cost of revenues	71,153	71,918	71,172	74,996	62,477	67,136	72,072	68,248
Gross profit	257,272	271,842	281,636	299,730	211,241	229,882	233,453	247,323
Operating expenses	163,780	197,042	187,367	198,744	157,796	186,108	162,765	141,666
Income from operations	93,492	74,800	94,269	100,986	53,445	43,774	70,688	105,657
Interest and other income	4,945	5,913	5,358	13,801	2,987	2,652	3,035	4,607
Interest and other expense	(732)	(697)	(704)	(482)	(690)	(728)	(717)	(695)
Income before income taxes	97,705	80,016	98,923	114,305	55,742	45,698	73,006	109,569
Income tax expense	12,536	16,768	20,304	26,378	3,511	1,863	14,247	26,060
Net income	$ 85,169	$ 63,248	$ 78,619	$ 87,927	$ 52,231	$ 43,835	$ 58,759	$ 83,509
Net income per share — basic	$ 2.35	$ 1.74	$ 2.16	$ 2.42	$ 1.46	$ 1.22	$ 1.63	$ 2.31
Net income per share — diluted	$ 2.33	$ 1.73	$ 2.15	$ 2.39	$ 1.44	$ 1.20	$ 1.61	$ 2.29

	2019				2018			
	Mar. 31	Jun. 30	Sep. 30	Dec. 31	Mar. 31	Jun. 30	Sep. 30	Dec. 31
Revenues	100%	100%	100%	100%	100%	100%	100%	100%
Cost of revenues	22	21	20	20	23	23	24	22
Gross profit	78	79	80	80	77	77	76	78
Operating expenses	50	57	53	53	58	63	54	45
Income from operations	28	22	27	27	20	14	22	32
Interest and other income	2	2	2	4	1	1	1	1
Income before income taxes	30	24	29	31	21	15	23	33
Income tax expense	4	5	6	7	1	1	5	8
Net income	26%	19%	23%	24%	20%	14%	18%	25%

Liquidity and Capital Resources

Our principal sources of liquidity are cash and cash equivalents and cash from operations. We also have access to $750 million from our revolving credit facility. In total, cash and cash equivalents decreased by $30 million at December 31, 2019 compared to December 31, 2018, primarily due to the cash paid in connection with the acquisitions of STR and OCP for an aggregate amount of $438 million, cash paid for purchases of property and equipment of $46 million and repurchases of restricted stock to satisfy employee tax withholding obligations upon vesting of restricted stock awards valued at approximately $28 million. These decreases were partially offset by net cash generated from operations of $458 million and proceeds from the exercise of employee stock options of approximately $25 million.

Net cash provided by operating activities for the year ended December 31, 2019 was $458 million compared to $335 million for the year ended December 31, 2018. The approximately $123 million increase from December 31, 2018 to December 31, 2019 was primarily due to an increase in net income of $77 million including an increase in other non-cash expenses such as stock-based compensation expense and the timing of collections for accounts receivable, partially offset by $15 million placed into an escrow account for deferred compensation for certain STR employees.

Net cash used in investing activities for the year ended December 31, 2019 was $484 million compared to $448 million for the year ended December 31, 2018. The $36 million increase in cash used in investing activities was primarily due to approximately $418 million of net cash paid to acquire ForRent, Cozy and Realla during 2018, compared to $438 million net cash paid during 2019 for the STR and OCP acquisitions. During 2019, we made capital expenditures of approximately $46 million compared to approximately $30 million during 2018. The increase in capital expenditures during the year ended December 31, 2019 was partially driven by the purchase of a corporate aircraft, which is principally used for business travel by our executives.

Net cash used in financing activities for the year ended December 31, 2019 was $4 million compared to net cash provided by financing activities of $3 million for the year ended December 31, 2018. This $7 million increase in cash used in financing activities in 2019 compared to 2018 was primarily due to higher repurchases of restricted stock to satisfy employee tax withholding obligations upon vesting of restricted stock awards of $3 million, as well as a decrease in proceeds from the exercise of employee stock options of $2 million.

Our future capital requirements will depend on many factors, including, among others, our operating results, expansion and integration efforts, and our level of acquisition activity or other strategic transactions. To date, we have grown in part by acquiring other companies, and we expect to continue to make acquisitions. On February 11, 2020, our wholly owned subsidiary entered into a purchase agreement to acquire all of the equity interests of reorganized RentPath, following an internal restructuring pursuant to a chapter 11 plan of reorganization, for $588 million in cash. The purchase agreement requires us to pay a $59 million fee in the event the purchase agreement is terminated prior to closing under specified circumstances. The acquisition will be funded using cash on hand. See Note 19 to the accompanying Notes to the Consolidated Financial Statements included in Part IV of this Annual Report on Form 10-K for further discussion. Based on current plans, we believe that our available cash combined with positive cash flow provided by operating activities should be sufficient to fund our operations for at least the next twelve months.

Contractual Obligations. The following table summarizes our principal contractual obligations at December 31, 2019 and the effect such obligations are expected to have on our liquidity and cash flows in future periods (in thousands):

	Total	2020	2021-2022	2023-2024	Thereafter
Operating leases	$ 165,542	$ 34,976	$ 64,698	$ 53,635	$ 12,233
Purchase obligations [1]	41,284	20,798	18,762	1,152	572
Total contractual principal cash obligations	$ 206,826	$ 55,774	$ 83,460	$ 54,787	$ 12,805

[1] Amounts do not include (i) contracts with terms of twelve months or less, (ii) multi-year contracts that may be terminated by a third-party or us, or (iii) employment agreements. Amounts do not include income taxes payable due to uncertainty regarding the timing of future cash payments.

Critical Accounting Policies

The preparation of financial statements and related disclosures in conformity with U.S. generally accepted accounting principles (“GAAP”) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and revenues and expenses during the period reported. The following accounting policies involve a “critical accounting estimate” because they are particularly dependent on estimates and assumptions made by management about matters that are highly uncertain at the time the accounting estimates are made. In addition, while we have used our best estimates based on facts and circumstances available to us at the time, different acceptable assumptions would yield different results. Changes in the accounting estimates are reasonably likely to occur from period to period, which may have a material impact on the presentation of our financial condition and results of operations. We review these estimates and assumptions periodically and reflect the effects of revisions in the period that they are determined to be necessary. We consider policies relating to the following matters to be critical accounting policies:

- Long-lived assets, intangible assets and goodwill
- Revenue recognition
- Income taxes
- Business combinations

With respect to our accounting policy for long-lived assets, intangible assets and goodwill, we further supplement in Note 2 of the Notes to the Consolidated Financial Statements included in this Annual Report on Form 10-K with the following:

We assess the impairment of long-lived assets, identifiable intangibles and goodwill whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Judgments made by management relate to the expected useful lives of long-lived assets and our ability to recover the carrying value of such assets. The accuracy of these judgments may be adversely affected by several factors, including the factors listed below:

- Significant underperformance relative to historical or projected future operating results;
- Significant changes in the manner of our use of the acquired assets or the strategy for our overall business;
- Significant negative industry or economic trends; or
- Significant decline in our market capitalization relative to net book value for a sustained period.

When we determine that the carrying value of long-lived and identifiable intangible assets may not be recovered based upon the existence of one or more of the above indicators, we test for impairment.

Goodwill and identifiable intangible assets that are not subject to amortization are tested annually for impairment by each reporting unit on October 1 of each year and are also tested for impairment more frequently based upon the existence of one or more of the above indicators.

Goodwill represents the excess of costs over the fair value of assets of acquired businesses. Goodwill is not amortized, but instead tested for impairment at least annually by each reporting unit. We may first assess qualitative factors to evaluate whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount or elect to bypass such assessment. If it is determined that it is more likely than not that the fair value of a reporting unit is less than its carrying value, or we elect to bypass such assessment, we then determine the fair value of each reporting unit. We estimate the fair value of each reporting unit based on a projected discounted cash flow model that includes significant assumptions and estimates including our discount rate, growth rate and future financial performance. Assumptions about the discount rate are based on a weighted average cost of capital for comparable companies. Assumptions about the growth rate and future financial performance of a reporting unit are based on our forecasts, business plans, economic projections and anticipated future cash flows. These assumptions are subject to change from period to period and could be adversely impacted by the uncertainty surrounding global market conditions, commercial real estate conditions and the competitive environment in which we operate. Changes in these or other factors could negatively affect our reporting units' fair value and potentially result in impairment charges. Such impairment charges could have an adverse effect on our results of operations.

The fair value of each reporting unit is compared to the carrying amount of the reporting unit. If the carrying value of the reporting unit exceeds the fair value, then an impairment loss is recognized for the difference. We estimate the fair value of our reporting units based on a projected discounted cash flow method using a discount rate determined by our management to be commensurate with the risk in our current business model. As of October 1, 2019, we assessed the relevant qualitative factors and concluded that it was not more likely than not that the fair value of our reporting units was less than their respective carrying amounts. There have been no events or changes in circumstances as a result of our qualitative impairment analysis on October 1, 2019, that would indicate that the carrying value of each reporting unit may not be recoverable.

For an in-depth discussion of each of our significant accounting policies, including our critical accounting policies and further information regarding estimates and assumptions involved in their application, see Note 2 to the accompanying consolidated financial statements included in this Annual Report on Form 10-K.

Recent Accounting Pronouncements

See Note 2 of the Notes to Consolidated Financial Statements included in this Annual Report on Form 10-K for information on recent accounting pronouncements, including the expected dates of adoption.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We provide information, analytics and online marketplace services to commercial real estate and related business communities within the regions where we operate which primarily include, North America, Europe, Asia-Pacific and Latin America. The functional currency for a majority of our operations is the local currency, with the exception of certain STR international locations for which the functional currency is the British Pound.

Fluctuations in the British Pound, Canadian dollar and Euro may have an impact on our business, results of operations and financial position. For the year ended December 31, 2019 and December 31, 2018, revenues denominated in foreign currencies were approximately 4% and 3%, respectively, of total revenue. For the year ended December 31, 2019 and December 31, 2018, our revenues would have decreased by approximately $6 million and $3 million if the U.S. dollar exchange rate used strengthened by 10%. For the year ended December 31, 2019 and December 31, 2018, our revenues would have increased by approximately $6 million and $3 million if the U.S. dollar exchange rate used weakened by 10%. Fluctuations in the exchange rates of revenues denominated in any other foreign currencies would have had an immaterial impact on our consolidated results. In addition, we have assets and liabilities denominated in foreign currencies. We currently do not use financial instruments to hedge our exposure to exchange rate fluctuations with respect to our foreign subsidiaries. We may seek to enter into hedging transactions in the future to reduce our exposure to exchange rate fluctuations, but we may be unable to enter into hedging transactions successfully, on acceptable terms or at all. As of December 31, 2019, accumulated other comprehensive loss included a loss from foreign currency translation adjustments of approximately $8 million.

We do not believe we have material exposure to market risks associated with changes in interest rates related to cash equivalent securities held as of December 31, 2019. As of December 31, 2019, we had $1.1 billion of cash and cash equivalents. If there is an increase or decrease in interest rates, there will be a corresponding increase or decrease in the amount of interest earned on our cash and cash equivalents.

Included within our short-term and long-term investments are investments in mostly AAA-rated student loan ARS. These securities are primarily securities supported by guarantees from the FFELP of the U.S. Department of Education. As of December 31, 2019, $11 million of our investments in ARS failed to settle at auction. As a result, we may not be able to sell these investments at par value until a future auction on these investments is successful. In the event we need to immediately liquidate these investments, we may have to locate a buyer outside the auction process, who may be unwilling to purchase the investments at par, resulting in a loss. If the issuers are unable to successfully close future auctions and/or their credit ratings deteriorate, we may be required to adjust the carrying value of these investments as a temporary impairment and recognize a greater unrealized loss in accumulated other comprehensive loss or as an other-than-temporary impairment charge to earnings. Based on our ability to access our cash and cash equivalents, and our expected operating cash flows, we do not anticipate having to sell these securities below par value in order to operate our business in the foreseeable future. See Notes 5 and 6 to the Notes to Consolidated Financial Statements included in this Annual Report on Form 10-K for further discussion.

We had approximately $2.3 billion of goodwill and intangible assets as of December 31, 2019. As of December 31, 2019, we believe our intangible assets will be recoverable; however, changes in the economy, the business in which we operate and our own relative performance could change the assumptions used to evaluate intangible asset recoverability. In the event that we determine that an asset has been impaired, we would recognize an impairment charge equal to the amount by which the carrying amount of the assets exceeds the fair value of the asset. We continue to monitor these assumptions and their effect on the estimated recoverability of our intangible assets.

Item 8. Financial Statements and Supplementary Data

Financial Statements meeting the requirements of Regulation S-X are set forth beginning at page F-1. Supplementary data is set forth in "Management's Discussion and Analysis of Financial Condition and Results of Operations" under the caption "Consolidated Results of Operations" and "Consolidated Quarterly Results of Operations."

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

We carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the fiscal year. Based on the foregoing, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective and were operating at a reasonable assurance level as of December 31, 2019.

During 2019, we continued to implement a financial system that is designed to improve the efficiency and effectiveness of our operational and financial accounting processes. This implementation is expected to continue beyond 2020. Consistent with any process change that we implement, the design of the internal controls has and will continue to be evaluated for effectiveness as part of our overall assessment of the effectiveness of our disclosure controls and procedures. We expect that the implementation of this system will improve our internal controls over financial reporting.

Other than the implementation of a new financial system noted above, there have been no changes in our internal control over financial reporting during our most recent fiscal year that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

Management of CoStar is responsible for establishing and maintaining adequate internal control over financial reporting and for the assessment of the effectiveness of internal control over financial reporting. As defined by the Securities and Exchange Commission, internal control over financial reporting is a process designed by, or supervised by, the Company's principal executive and principal financial officers, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with GAAP.

The Company's internal control over financial reporting is supported by written policies and procedures, that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the Company's assets; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures of the Company are being made only in accordance with authorizations of the Company's management and directors; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

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

In connection with the preparation of the Company's annual financial statements, management of the Company has undertaken an assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2019 based on criteria established in Internal Control – Integrated Framework (2013 framework) issued by the Committee of Sponsoring

Organizations of the Treadway Commission (“the COSO Framework”). Management's assessment included an evaluation of the design of the Company's internal control over financial reporting and testing of the operational effectiveness of the Company's internal control over financial reporting.

Based on this assessment, management has concluded that the Company's internal control over financial reporting was effective as of December 31, 2019.

Ernst & Young LLP, the independent registered public accounting firm that audited the Company's financial statements included in this report, has issued an attestation report on the effectiveness of internal control over financial reporting, a copy of which is included in this Annual Report on Form 10-K.

On June 12, 2019, we completed the acquisition of OCP and on October 22, 2019, we completed the acquisition of STR. As permitted by the Securities and Exchange Commission, we have elected to exclude the internal controls of these acquisitions that have not been integrated into our existing processes and controls from our assessment of the effectiveness of internal control over financial reporting as of December 31, 2019. The excluded aggregate financial position of OCP and STR represented less than 1% of our total assets as of December 31, 2019, and less than 1% and 2% of our revenues and net income, respectively, for the year then ended. We will include the internal controls of OCP and STR in our assessment of the effectiveness of our internal control over financial reporting as of December 31, 2020.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

CoStar has adopted a Code of Conduct for its directors. In addition, CoStar has adopted a separate Code of Conduct for its officers and employees, including its principal executive, financial and accounting officers, or persons performing similar functions. Copies of each of these codes may be found in the “Investors” section of the Company’s website at www.investors.costargroup.com/leadership. We intend to disclose future amendments to certain provisions of our Codes, or waivers of such provisions granted to executive officers and directors, as required by the Security of Exchange ("SEC') rules on the website within four business days following the date of such amendment or waiver.

The remaining information required by this Item is incorporated by reference to our Proxy Statement for our 2020 annual meeting of stockholders under the captions “Nominees for the Board of Directors,” “Nominees’ Business Experience, Qualifications and Directorships,” “Information about our Executive Officers and Key Employees,” and “Board Meetings and Committees.”

Item 11. Executive Compensation

The information required by this Item is incorporated by reference to our Proxy Statement for our 2020 annual meeting of stockholders under the captions “Compensation Discussion and Analysis,” “Executive Compensation Tables and Discussion,” “Narratives to Summary Compensation Table and Grants of Plan-Based Awards Table,” “Director Compensation,” “Compensation Committee Interlocks and Insider Participation,” and “Compensation Committee Report.”

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this Item is incorporated by reference to our Proxy Statement for our 2020 annual meeting of stockholders under the captions “Equity Compensation Plan Information” and “Stock Ownership Information.”

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this Item is incorporated by reference to our Proxy Statement for our 2020 annual meeting of stockholders under the captions “Certain Relationships and Related Transactions” and “Corporate Governance Matters.”

Item 14. Principal Accountant Fees and Services

The information required by this Item is incorporated by reference to our Proxy Statement for our 2020 annual meeting of stockholders under the caption “Ratification of the Appointment of Independent Registered Public Accounting Firm.”

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a)(1) The following financial statements are filed as a part of this report: CoStar Group, Inc. Consolidated Financial Statements.

(a)(2) Financial statement schedules:

Schedule II – Valuation and Qualifying Accounts

The table below details the activity of the allowance for doubtful accounts and sales credits (1) for the years ended December 31, 2019, 2018, and 2017 (in thousands):

	Balance at Beginning of Year	Charged to Expense	Reductions	Balance at End of Year
Year ended December 31, 2017	$ 6,344	$ 5,690	$ 5,565	$ 6,469
Year ended December 31, 2018	$ 6,469	$ 6,542	$ 7,302	$ 5,709
Year ended December 31, 2019	$ 5,709	$ 10,978	$ 11,590	$ 5,097

(1) Additions to the allowance for doubtful accounts are charged to bad debt expense. Additions to the allowance for sales credits are charged against revenues.

Additional financial statement schedules are omitted because they are not applicable or not required or because the required information is incorporated herein by reference or included in the financial statements or related notes included elsewhere in this report.

(a)(3) The documents required to be filed as exhibits to this Report under Item 601 of Regulation S-K are listed as follows:

Exhibits

Exhibit No.	Description
3.1	Third Amended and Restated Certificate of Incorporation (Incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the Commission on June 6, 2013).
3.2	Third Amended and Restated By-Laws (Incorporated by reference to Exhibit 3.1 to the Registrant’s Current Report on Form 8-K filed with the Commission on September 24, 2013).
4.1	Specimen Common Stock Certificate (Incorporated by reference to Exhibit 4.1 to the Registration Statement on Form S-4 of the Registrant (Reg. No. 333-174214) filed with the Commission on June 3, 2011).
4.2	Description of the Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934 (filed herewith).
*10.1	CoStar Group, Inc. 2016 Stock Incentive Plan (Incorporated by reference to Exhibit 4.4 to the Registration Statement on Form S-8 of the Registrant (Reg. No. 333-212278) filed with the Commission on June 28, 2016).
*10.2	First Amendment to the CoStar Group, Inc. 2016 Stock Incentive Plan (Incorporated by reference to Exhibit 10.1 to the Registrant’s Quarterly Report on Form 10-Q filed April 25, 2018).
*10.3	CoStar Group, Inc. 2007 Stock Incentive Plan, as amended (Incorporated by reference to Exhibit 10.1 to the Registrant’s Current Report on Form 8-K filed June 8, 2012).
*10.4	CoStar Group, Inc. 2007 Stock Incentive Plan French Sub-Plan (Incorporated by reference to Exhibit 10.3 to the Registrant’s Report on Form 10-K filed February 29, 2008).
*10.5	Form of CoStar Group, Inc. 2016 Plan Restricted Stock Grant Agreement between the Registrant and certain of its officers, directors and employees (Incorporated by reference to Exhibit 10.3 to the Registrant’s Quarterly Report on Form 10-Q filed July 28, 2016).
*10.6	Form of CoStar Group, Inc. 2016 Plan Restricted Stock Grant Agreement for Service Awards between the Registrant and certain of its officers and employees (Incorporated by reference to Exhibit 10.4 to the Registrant’s Quarterly Report on Form 10-Q filed July 28, 2016).
*10.7	Form of CoStar Group, Inc. 2016 Plan Restricted Stock Unit Grant Agreement between the Registrant and certain of its officers and employees (Incorporated by reference to Exhibit 10.5 to the Registrant’s Quarterly Report on Form 10-Q filed July 28, 2016).

Exhibit No.	Description
*10.8	Form of CoStar Group, Inc. 2016 Plan Incentive Stock Option Grant Agreement between the Registrant and certain of its officers and employees (Incorporated by reference to Exhibit 10.6 to the Registrant’s Quarterly Report on Form 10-Q filed July 28, 2016).
*10.9	Form of CoStar Group, Inc. 2016 Plan Incentive Stock Option Grant Agreement between the Registrant and Andrew C. Florance (Incorporated by reference to Exhibit 10.7 to the Registrant’s Quarterly Report on Form 10-Q filed July 28, 2016).
*10.10	Form of CoStar Group, Inc. 2016 Plan Nonqualified Stock Option Grant Agreement between the Registrant and certain of its officers, directors and employees (Incorporated by reference to Exhibit 10.8 to the Registrant’s Quarterly Report on Form 10-Q filed July 28, 2016).
*10.11	Form of CoStar Group, Inc. 2016 Plan Nonqualified Stock Option Grant Agreement between the Registrant and Andrew C. Florance (Incorporated by reference to Exhibit 10.9 to the Registrant’s Quarterly Report on Form 10-Q filed July 28, 2016).
*10.12	Form of 2007 Plan Restricted Stock Grant Agreement between the Registrant and certain of its officers, directors and employees (Incorporated by reference to Exhibit 99.1 to the Registrant’s Report on Form 8-K filed June 22, 2007).
*10.13	Form of 2007 Plan Restricted Stock Unit Agreement between the Registrant and certain of its officers and employees (Incorporated by reference to Exhibit 10.8 to the Registrant's Report on Form 10-K filed February 20, 2014).
*10.14	Form of 2007 Plan Incentive Stock Option Grant Agreement between the Registrant and certain of its officers and employees (Incorporated by reference to Exhibit 10.8 to the Registrant’s Report on Form 10-K filed February 24, 2009).
*10.15	Form of 2007 Plan Incentive Stock Option Grant Agreement between the Registrant and Andrew C. Florance (Incorporated by reference to Exhibit 10.9 to the Registrant’s Report on Form 10-K filed February 24, 2009).
*10.16	Form of 2007 Plan Nonqualified Stock Option Grant Agreement between the Registrant and certain of its officers and employees (Incorporated by reference to Exhibit 10.10 to the Registrant’s Report on Form 10-K filed February 24, 2009).
*10.17	Form of 2007 Plan Nonqualified Stock Option Grant Agreement between the Registrant and certain of its directors (Incorporated by reference to Exhibit 10.11 to the Registrant’s Report on Form 10-K filed February 24, 2009).
*10.18	Form of 2007 Plan Nonqualified Stock Option Grant Agreement between the Registrant and Andrew C. Florance (Incorporated by reference to Exhibit 10.12 to the Registrant’s Report on Form 10-K filed February 24, 2009).
*10.19	Form of 2007 Plan French Sub-Plan Restricted Stock Agreement between the Registrant and certain of its employees (Incorporated by reference to Exhibit 10.10 to the Registrant’s Report on Form 10-K filed February 29, 2008).
*10.20	CoStar Group, Inc. 2016 Cash Incentive Plan (Incorporated by reference to Exhibit 10.2 to the Registrant’s Quarterly Report on Form 10-Q filed July 28, 2016).
*10.21	CoStar Group, Inc. Amended and Restated Employee Stock Purchase Plan (Incorporated by reference to Exhibit 4.4 to the Registrant’s Registration Statement on Form S-8 filed with the Commission on September 14, 2015).
*10.22	CoStar Group, Inc. Management Stock Purchase Plan (Incorporated by reference to Exhibit 10.21 to the Registrant’s Report on Form 10-K filed February 23, 2018).
*10.23	Summary of Non-Employee Director Compensation (Incorporated by reference to Exhibit 10.1 to the Registrant's Report on Form 10-Q filed on October 24, 2013).
*10.24	Employment Agreement for Andrew C. Florance (Incorporated by reference to Exhibit 10.2 to Amendment No. 1 to the Registration Statement on Form S-1 of the Registrant (Reg. No. 333-47953) filed with the Commission on April 27, 1998).
*10.25	First Amendment to Andrew C. Florance Employment Agreement, effective January 1, 2009 (Incorporated by reference to Exhibit 10.16 to the Registrant’s Report on Form 10-K filed February 24, 2009).
10.26	Form of Indemnification Agreement between the Registrant and each of its officers and directors (Incorporated by reference to Exhibit 10.1 to the Registrant’s Report on Form 10-Q filed on May 7, 2004).
10.27	Deed of Office Lease by and between GLL L-Street 1331, LLC and CoStar Realty Information, Inc., dated February 18, 2011, and made effective as of June 1, 2010 (Incorporated by reference to Exhibit 10.1 to the Registrant’s Report on form 10-Q filed on April 29, 2011).
10.30	Securities Purchase Agreement, dated as of September 30, 2019, among CoStar Group, Inc., CoStar Realty Information, Inc., CoStar Portfolio Strategy, LLC, STR, Inc., STR Global, Ltd., the seller parties thereto, and Randell Smith, in his capacity as Sellers’ Representative (Incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed with the Commission on October 2, 2019).

Exhibit No.	Description
10.31	Asset Purchase Agreement, dated as of the Petition Date (on or about February 12, 2020), among CSGP Holdings, LLC, CoStar Group, Inc. (solely for the specified purposes), RentPath Holdings, Inc. and the other Sellers named therein (Incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed with the Commission on February 13, 2020).
21.1	Subsidiaries of the Registrant (filed herewith).
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm (filed herewith).
31.1	Certification of Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
31.2	Certification of Principal Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
32.1	Certification of Principal Executive Officer pursuant to 18 U.S.C. Sec. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith).
32.2	Certification of Principal Financial Officer pursuant to 18 U.S.C. Sec. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith).
101.INS	The following financial statements from the Company's Annual Report on Form 10-K for the year ended December 31, 2019, formatted in Inline XBRL: (i) Consolidated Statements of Operations; (ii) Consolidated Statements of Comprehensive Income; (iii) Consolidated Balance Sheets; (iv) Consolidated Statements of Cash Flows; and (v) Notes to Consolidated Financial Statements, tagged as blocks of text and including detailed tags.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.
104	The cover page from the Registrant's Annual Report on Form 10-K for the year ended December 31, 2019, formatted in Inline XBRL (included as Exhibit 101).

* Management Contract or Compensatory Plan or Arrangement.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

	COSTAR GROUP, INC.	
	By:	/s/ Andrew C. Florance
February 26, 2020		Andrew C. Florance
		President and Chief Executive Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each individual whose signature appears below constitutes and appoints Andrew C. Florance and Scott T. Wheeler, and each of them individually, as their true and lawful attorneys-in-fact and agents, with full power of substitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments to this report, and to file the same, with all exhibits thereto and to all documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, herein by ratifying and confirming all that said attorneys-in-fact and agents or any of them, or his or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1934, as amended, this report has been signed by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Capacity	Date
/s/ Michael R. Klein Michael R. Klein	Chairman of the Board	February 26, 2020
/s/ Andrew C. Florance Andrew C. Florance	Chief Executive Officer and President and a Director (Principal Executive Officer)	February 26, 2020
/s/ Scott T. Wheeler Scott T. Wheeler	Chief Financial Officer (Principal Financial and Accounting Officer)	February 26, 2020
/s/ Michael J. Glosserman Michael J. Glosserman	Director	February 26, 2020
/s/ John W. Hill John W. Hill	Director	February 26, 2020
/s/ Laura Cox Kaplan Laura Cox Kaplan	Director	February 26, 2020
/s/ Christopher J. Nassetta Christopher J. Nassetta	Director	February 26, 2020
/s/ David J. Steinberg David J. Steinberg	Director	February 26, 2020
/s/ Louise S. Sams Louise S. Sams	Director	February 26, 2020
/s/ Robert W. Musslewhite Robert W. Musslewhite	Director	February 21, 2020

COSTAR GROUP, INC.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of CoStar Group, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of CoStar Group, Inc. (the Company) as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2019, and the related notes and the financial statement schedule listed in the Index at Item 15(a)(2) (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the consolidated financial position of the Company at December 31, 2019 and 2018, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated February 26, 2020 expressed an unqualified opinion thereon.

Adoption of ASU No. 2014-09

As discussed in Note 2 to the consolidated financial statements, the Company changed its method for recognizing revenue in 2018 due to the adoption of Accounting Standards Update (ASU) No. 2014-09, *Revenue from Contracts with Customers* (Topic 606), and the related amendments.

Adoption of ASU No. 2016-02

As discussed in Note 2 to the consolidated financial statements, the Company changed its method for accounting for leases in 2019 due to the adoption of Accounting Standards Update (ASU) No. 2016-02, *Leases* (Topic 842), and the related amendments.

Basis for Opinion

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

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

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

	Valuation of Acquired Intangible Assets
Description of the Matter	As described in Note 4 to the consolidated financial statements, during the year ended December 31, 2019, the Company completed the acquisition of STR, Inc. and STR Global, Ltd. (together with STR, Inc. referred to as "STR") for $435 million in cash. The Company's accounting for the acquisition included determining the fair value of the acquired intangible assets including customer relationships of $139 million. Auditing the accounting for the acquired intangible assets of STR involved complex auditor judgment due to the estimation required in management's determination of the fair value. The estimation was significant primarily due to the sensitivity of the respective fair values to the underlying assumptions, including discount rates, projected revenue growth rates, customer attrition rates and projected profit margins. These significant assumptions are forward-looking and could be affected by future economic and market conditions.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's process for accounting for acquired intangible assets. For example, we tested controls over management's review of the valuation model and significant assumptions used in the valuation as well as controls over the completeness and accuracy of the data used in the model and assumptions. To test the fair value of these acquired intangible assets, our audit procedures included, among others, evaluating the Company's use of valuation methodologies, evaluating the significant assumptions, evaluating the prospective financial information and testing the completeness and accuracy of underlying data. We involved our valuation specialists to assist in testing certain significant assumptions used to value the acquired intangible assets. For example, we compared the significant assumptions to current industry and market trends, historical results of the acquired business and to other relevant factors. We also performed sensitivity analyses of the significant assumptions to evaluate the change in the fair value resulting from changes in the assumptions.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1994.

Tysons, Virginia

February 26, 2020

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of CoStar Group, Inc.

Opinion on Internal Control over Financial Reporting

We have audited CoStar Group, Inc.’s internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, CoStar Group, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on the COSO criteria.

As indicated in the accompanying Management’s Report on Internal Control over Financial Reporting, management’s assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of Off Campus Partners, LLC, STR, Inc. and STR Global, Ltd., which are included in the 2019 consolidated financial statements of CoStar Group, Inc., and collectively constituted less than 1% of total assets as of December 31, 2019 and less than 1% and 2% of total revenues and net income, respectively, for the year then ended. Our audit of internal control over financial reporting of CoStar Group, Inc. also did not include an evaluation of the internal control over financial reporting of Off Campus Partners, LLC, STR, Inc. and STR Global, Ltd.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of CoStar Group, Inc. as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2019 and the related notes and the financial statement schedule listed in the Index at Item 15(a)(2) (collectively referred to as the “financial statements”) of CoStar Group, Inc. and our report dated February 26, 2020 expressed an unqualified opinion thereon.

Basis for Opinion

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management’s Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

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

/s/ Ernst & Young LLP

Tysons, Virginia

February 26, 2020

COSTAR GROUP, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)

	Year Ended December 31,		
	2019	2018	2017
Revenues	$ 1,399,719	$ 1,191,832	$ 965,230
Cost of revenues	289,239	269,933	220,403
Gross profit	1,110,480	921,899	744,827
Operating expenses:			
Selling and marketing (excluding customer base amortization)	408,596	359,858	318,362
Software development	125,602	100,937	88,850
General and administrative	178,740	156,659	146,128
Customer base amortization	33,995	30,881	17,671
	746,933	648,335	571,011
Income from operations	363,547	273,564	173,816
Interest and other income	30,017	13,281	4,044
Interest and other expense	(2,615)	(2,830)	(9,014)
Loss on debt extinguishment	—	—	(3,788)
Income before income taxes	390,949	284,015	165,058
Income tax expense	75,986	45,681	42,363
Net income	$ 314,963	$ 238,334	$ 122,695
Net income per share — basic	$ 8.67	$ 6.61	$ 3.70
Net income per share — diluted	$ 8.60	$ 6.54	$ 3.66
Weighted-average outstanding shares — basic	36,310	36,058	33,200
Weighted-average outstanding shares — diluted	36,630	36,448	33,559

See accompanying notes.

COSTAR GROUP, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in thousands)

	Year Ended December 31,		
	2019	**2018**	**2017**
Net income	$ 314,963	$ 238,334	$ 122,695
Other comprehensive income (loss), net of tax			
Foreign currency translation adjustment	3,103	(2,668)	3,901
Net decrease in unrealized loss on investments	—	—	118
Total other comprehensive income (loss)	3,103	(2,668)	4,019
Total comprehensive income	$ 318,066	$ 235,666	$ 126,714

See accompanying notes.

COSTAR GROUP, INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except per share data)

	December 31, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 1,070,731	$ 1,100,416
Accounts receivable, less allowance of $5,097 and $5,709 as of December 31, 2019 and December 31, 2018, respectively	92,240	89,192
Prepaid expenses and other current assets	36,194	23,690
Total current assets	1,199,165	1,213,298
Long-term investments	10,070	10,070
Deferred income taxes, net	5,408	7,469
Lease right-of-use assets	115,084	—
Property and equipment, net	107,529	83,303
Goodwill	1,882,020	1,611,535
Intangible assets, net	421,196	288,911
Deferred commission costs, net	89,374	76,031
Deposits and other assets	9,232	7,432
Income tax receivable	14,908	14,908
Total assets	$ 3,853,986	$ 3,312,957
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	7,640	6,327
Accrued wages and commissions	53,087	45,588
Accrued expenses	38,680	29,821
Deferred gain on the sale of building	—	2,523
Income taxes payable	10,705	14,288
Deferred rent	—	4,153
Lease liabilities	29,670	—
Deferred revenue	67,274	51,459
Total current liabilities	207,056	154,159
Deferred gain on the sale of building	—	13,669
Deferred rent	—	31,944
Deferred income taxes, net	87,096	69,857
Income taxes payable	20,521	17,386
Lease and other long-term liabilities	133,720	4,000
Total liabilities	448,393	291,015
Commitments and contingencies (Note 13)		
Stockholders' equity:		
Preferred stock, $0.01 par value; 2,000 shares authorized; none outstanding	—	—
Common stock, $0.01 par value; 60,000 shares authorized; 36,668 and 36,446 issued and outstanding as of December 31, 2019 and 2018, respectively	366	364
Additional paid-in capital	2,473,338	2,419,812
Accumulated other comprehensive loss	(8,585)	(11,688)
Retained earnings	940,474	613,454
Total stockholders' equity	3,405,593	3,021,942
Total liabilities and stockholders' equity	$ 3,853,986	$ 3,312,957

See accompanying notes.

COSTAR GROUP, INC.
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
(in thousands)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Retained Earnings	Total Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2016	32,606	$ 326	$ 1,471,127	$ (13,039)	$ 195,799	$ 1,654,213
Cumulative effect of adoption of new accounting standard	—	—	—	—	2,162	$ 2,162
Net income	—	—	—	—	122,695	122,695
Other comprehensive income	—	—	—	4,019	—	4,019
Exercise of stock options	82	1	6,796	—	—	6,797
Restricted stock grants	187	2	(2)	—	—	—
Restricted stock grants surrendered	(99)	(1)	(14,901)	—	—	(14,902)
Stock-based compensation expense	—	—	38,921	—	—	38,921
Stock issued for equity offering	3,317	33	833,878	—	—	833,911
Employee stock purchase plan	14	—	3,434	—	—	3,434
Balance at December 31, 2017	36,107	361	2,339,253	(9,020)	320,656	2,651,250
Cumulative effect of adoption of new accounting standard, net of tax	—	—	—	—	54,464	54,464
Balance at January 1, 2018	36,107	361	2,339,253	(9,020)	375,120	2,705,714
Net income	—	—	—	—	238,334	238,334
Other comprehensive loss	—	—	—	(2,668)	—	(2,668)
Exercise of stock options	177	2	21,991	—	—	21,993
Restricted stock grants	160	1	(1)	—	—	—
Restricted stock grants surrendered	(116)	(1)	(24,326)	—	—	(24,327)
Stock-based compensation expense	—	—	40,889	—	—	40,889
Employee stock purchase plan	15	—	5,641	—	—	5,641
Stock issued for acquisitions	103	1	36,365	—	—	36,366
Balance at December 31, 2018	36,446	364	2,419,812	(11,688)	613,454	3,021,942
Cumulative effect of adoption of new accounting standard, net of tax	—	—	—	—	12,057	12,057
Balance at January 1, 2019	36,446	364	2,419,812	(11,688)	625,511	3,033,999
Net income	—	—	—	—	314,963	314,963
Other comprehensive income	—	—	—	3,103	—	3,103
Exercise of stock options	116	1	18,651	—	—	18,652
Restricted stock grants	168	2	(2)	—	—	—
Restricted stock grants surrendered	(76)	(1)	(27,576)	—	—	(27,577)
Stock-based compensation expense	—	—	51,818	—	—	51,818
Management stock purchase plan	—	—	3,491	—	—	3,491
Employee stock purchase plan	14	—	7,144	—	—	7,144
Balance at December 31, 2019	36,668	$ 366	2,473,338	(8,585)	940,474	3,405,593

See accompanying notes.

COSTAR GROUP, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended December 31,		
	2019	2018	2017
Operating activities:			
Net income	$ 314,963	$ 238,334	$ 122,695
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	81,165	77,743	63,643
Amortization of deferred commissions costs	53,421	48,313	—
Amortization of debt issuance costs	876	876	2,303
Non-cash lease expense	22,748	—	—
Loss on extinguishment of debt	—	—	3,788
Loss on disposal of property and equipment	105	73	129
Stock-based compensation expense	52,255	41,214	39,030
Deferred income taxes, net	8,220	3,666	(2,903)
Bad debt expense	10,978	6,542	5,690
Changes in operating assets and liabilities, net of acquisitions:			
Accounts receivable	(5,014)	(27,819)	(17,524)
Prepaid expenses and other current assets	(14,244)	(1,651)	(3,672)
Deferred commissions	(66,688)	(53,497)	—
Income tax receivable	—	(1,927)	(12,981)
Accounts payable and other liabilities	17,751	(14,132)	11,525
Lease liabilities	(25,442)	—	—
Income taxes payable	(577)	9,632	16,937
Deferred revenue	7,911	7,879	6,004
Other assets	(648)	212	39
Net cash provided by operating activities	457,780	335,458	234,703
Investing activities:			
Purchases of property and equipment and other assets	(46,197)	(29,632)	(24,499)
Cash paid for acquisitions, net of cash acquired	(437,556)	(418,369)	(47,768)
Net cash used in investing activities	(483,753)	(448,001)	(72,267)
Financing activities:			
Payments of long-term debt	—	—	(345,000)
Payments of debt issuance costs	—	—	(3,467)
Repurchase of restricted stock to satisfy tax withholding obligations	(27,577)	(24,327)	(14,902)
Proceeds from equity offering, net of transaction costs	—	—	833,911
Proceeds from exercise of stock options and employee stock purchase plan	25,080	27,071	9,888
Other financing activities	(1,657)	—	—
Net cash (used in) provided by financing activities	(4,154)	2,744	480,430
Effect of foreign currency exchange rates on cash and cash equivalents	442	(1,248)	1,374
Net (decrease) increase in cash and cash equivalents	(29,685)	(111,047)	644,240
Cash and cash equivalents at beginning of year	1,100,416	1,211,463	567,223
Cash and cash equivalents at end of year	$ 1,070,731	$ 1,100,416	$ 1,211,463

COSTAR GROUP, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

Supplemental cash flow disclosures:						
Interest paid	$	1,998	$	1,421	$	6,445
Income taxes paid	$	68,935	$	35,980	$	41,283
Supplemental non-cash investing and financing activities:						
Stock issued in connection with acquisition - ForRent	$	—	$	36,366	$	—
Consideration owed for acquisitions	$	1,650	$	1,534	$	—

See accompanying notes.

1. ORGANIZATION

CoStar Group, Inc. (the "Company" or "CoStar") provides information, analytics and online marketplace services to the commercial real estate and related business community through its comprehensive, proprietary database of commercial real estate information. The Company provides online marketplaces for commercial real estate, apartment rentals, lands for-sale and businesses for-sale, and its services are typically distributed to its clients under subscription-based license agreements that renew automatically, a majority of which have a term of at least one year. The Company operates within two operating segments, North America, which includes the United States ("U.S.") and Canada, and International, which primarily includes Europe, Asia-Pacific and Latin America.

On October 22, 2019, the Company acquired STR, Inc. and STR Global, Ltd. (together with STR, Inc., referred to as "STR"). STR provides benchmarking and analytics for the hospitality industry. See Note 4 to the accompanying Notes to the Consolidated Financial Statements for further discussion of this acquisition.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation. Accounting policies are consistent for each operating segment.

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles ("GAAP") requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. On an ongoing basis, the Company evaluates its estimates and assumptions, including those related to revenue recognition, allowance for doubtful accounts, the useful lives and recoverability of long-lived and intangible assets, and goodwill; income taxes, the fair value of auction rate securities, accounting for business combinations, stock-based compensation, estimating the Company's incremental borrowing rate for its leases, and contingencies, among others. The Company bases these estimates on historical and anticipated results, trends, and various other assumptions that it believes are reasonable, including assumptions as to future events. These estimates form the basis for making judgments about the carrying values of assets and liabilities and recorded revenues and expenses. Actual results could differ from these estimates.

Revenue Recognition

The Company derives revenues primarily by (i) providing access to its proprietary database of commercial real estate information and (ii) providing online marketplaces for professional property management companies, property owners, brokers and landlords, in each case typically through a fixed monthly fee for its subscription-based services. The Company's subscription-based services consist primarily of information, analytics and online marketplace services offered over the Internet to commercial real estate industry and related professionals. Subscription contract rates are based on the number of sites, number of users, organization size, the client's business focus, geography, the number and types of services to which a client subscribes, the number of properties a client advertises and the prominence and placement of a client's advertised properties in the search results. The Company's subscription-based license agreements typically renew automatically, and a majority have a term of at least one year.

The Company also provides market research, portfolio and debt analysis, management and reporting capabilities, and real estate and lease management solutions, including lease administration and abstraction services, to commercial customers, real estate investors, lenders and hospitality customers via our other service offerings.

The Company analyzes contracts to determine the appropriate revenue recognition using the following steps: (i) identification of contracts with customers, (ii) identification of distinct performance obligations in the contract, (iii) determination of contract transaction price, (iv) allocation of contract transaction price to the performance obligations, and (v) determination of revenue recognition based on timing of satisfaction of the performance obligation(s).

The Company recognizes revenues upon the satisfaction of its performance obligation(s) (upon transfer of control of promised services to its customers) in an amount that reflects the consideration to which it expects to be entitled to in exchange for those services. Revenues from subscription-based services are recognized on a straight-line basis over the term of the agreement.

In limited circumstances, the Company's contracts with customers include promises to transfer multiple services, such as contracts for its subscription-based services and professional services. For these contracts, the Company accounts for individual performance obligations separately if they are distinct, which involves the determination of the standalone selling price for each distinct performance obligation.

Deferred revenue results from amounts billed in advance to customers or cash received from customers in advance of the Company's fulfillment of its performance obligation(s) and is recognized over the term of the license agreement.

Contract assets represent a conditional right to consideration for satisfied performance obligations that become a receivable when the conditions are satisfied. Contract assets are generated when contractual billing schedules differ from revenue recognition timing.

Certain sales commissions are considered incremental and recoverable costs of obtaining a contract with a customer. Sales commissions incurred for obtaining new contracts are deferred and then amortized as selling and marketing expenses on a straight-line basis over a period of benefit that the Company has determined to be three years. The three-year amortization period was determined based on several factors, including the nature of the technology and proprietary data underlying the services being purchased, customer contract renewal rates and industry competition. Certain commission costs are not capitalized as they do not represent incremental costs of obtaining a contract. See Note 3 for further discussion of the Company's revenue recognition.

On January 1, 2018, the Company adopted Accounting Standards Update (“ASU") 2014-09, *Revenue from Contracts with Customers*, later codified as Accounting Standards Codification 606 ("*ASC 606*") using the modified retrospective method. Operating results for periods subsequent to December 31, 2017 are presented under *ASC 606*, while prior period amounts are not adjusted and continue to be reported in accordance with the Company’s historical accounting policies prior to adoption. For details about the Company’s revenue recognition policy prior to the adoption of *ASC 606*, refer to the Company’s Annual Report on Form 10-K for the year ended December 31, 2017, filed with the Securities and Exchange Commission on February 23, 2018.

Cost of Revenues

Cost of revenues principally consists of salaries, benefits, bonuses, and stock-based compensation expenses for the Company’s researchers who collect and analyze the commercial real estate data that is the basis for the Company’s information, analytics and online marketplaces. Additionally, cost of revenues includes the cost of data from third-party data sources, credit card and other transaction fees relating to processing customer transactions, which are expensed as incurred, operating lease costs and the amortization of acquired trade names, technology and other intangible assets.

Foreign Currency Translation

The Company’s reporting currency is the U.S. dollar. The functional currency for the majority of its operations is the local currency, with the exception of certain international locations of STR for which the functional currency is the British Pound. Assets and liabilities denominated in a foreign currency are translated into U.S. dollars using the exchange rates in effect as of the balance sheet date. Gains and losses resulting from translation are included in accumulated other comprehensive loss. Currency gains and losses on the translation of intercompany loans made to foreign subsidiaries that are of a long-term investment nature are also included in accumulated other comprehensive loss. Net gains or losses resulting from transactions denominated in a currency other than the functional currency of the entity are included in interest and other income (expense) in the consolidated statements of operations using the average exchange rates in effect during the period. There were no material gains or losses from foreign currency exchange transactions for the years ended December 31, 2019, 2018, and 2017.

Accumulated Other Comprehensive Loss

The components of accumulated other comprehensive loss, net of tax were as follows (in thousands):

	As of December 31,	
	2019	2018
Foreign currency translation adjustment	$ (7,855)	$ (10,958)
Net unrealized loss on investments	(730)	(730)
Total accumulated other comprehensive loss	$ (8,585)	$ (11,688)

There were no amounts reclassified out of accumulated other comprehensive loss to the consolidated statements of operations for the years ended December 31, 2019, December 31, 2018 and December 31, 2017. See Note 5 for additional information regarding unrealized gains and losses recognized on investments.

Advertising Costs

The Company expenses advertising costs as incurred. Advertising costs include e-commerce, television, radio, print and other media advertising. Advertising costs were approximately $164 million, $124 million and $104 million for the years ended December 31, 2019, 2018 and 2017, respectively.

Income Taxes

Deferred income taxes result from temporary differences between the tax basis of assets and liabilities and the basis reported in the Company's consolidated financial statements. Deferred tax liabilities and assets are determined based on the difference between the financial statement and the tax basis of assets and liabilities using enacted rates in effect during the year in which the Company expects differences to reverse. Valuation allowances are provided against assets, including net operating losses, if the Company determines it is more likely than not that some portion or all of an asset may not be realized. Interest and penalties related to income tax matters are recognized in income tax expense.

The Company has elected to record the global intangible low taxed income inclusion ("GILTI") under the current-period cost method.

See Note 12 for additional information regarding income taxes.

Net Income Per Share

Net income per share is computed by dividing net income by the weighted-average number of common shares outstanding during the period on a basic and diluted basis. The weighted-average number of common shares outstanding during the period used for purposes of calculating basic earnings per share excludes stock options and stock-based awards which include restricted stock awards that vest over a specific service period, restricted stock awards that vest based on achievement of a performance condition, restricted stock awards with a performance and a market condition, restricted stock units and Matching restricted stock units ("Matching RSUs) awarded under the Company's Management Stock Purchase Plan (the "MSPP"). The Company's potentially dilutive securities include outstanding stock options and unvested restricted stock-based awards. Shares underlying unvested restricted stock-based awards that vest based on performance and market conditions that have not been achieved as of the end of the period are not included in the computation of basic or diluted earnings per share. Diluted net income per share considers the impact of potentially dilutive securities except when the inclusion of the potentially dilutive securities would have an anti-dilutive effect. See Note 16 for additional information on the Company's calculation of net income per share.

Stock-Based Compensation

Equity instruments issued in exchange for services performed by officers, employees, and directors of the Company are accounted for using a fair-value based method and the fair value of such equity instruments is recognized as expense in the consolidated statements of operations.

For stock-based awards that vest over a specific service period, compensation expense is measured based on the fair value of the awards at the grant date, and is recognized on a straight-line basis over the vesting period of the awards, net of an estimated forfeiture rate. For equity instruments that vest based on achievement of a performance condition, stock-based compensation expense is recognized based on the expected achievement of the related performance conditions at the end of each reporting period over the vesting period of the awards. If the Company's initial estimates of the achievement of the performance conditions change, the related stock-based compensation expense and timing may fluctuate from period to period based on those estimates. If the performance conditions are not met, no stock-based compensation expense will be recognized, and any previously recognized stock-based compensation expense will be reversed. For awards with both a performance and a market condition, the Company estimates the fair value of each equity instrument granted on the date of grant using a Monte-Carlo simulation model. This pricing model uses multiple simulations to evaluate the probability of achieving the market condition to calculate the fair value of the awards.

Stock-based compensation expense for stock options and restricted stock awards issued under equity incentive plans and stock purchases under the Employee Stock Purchase Plan ("ESPP") included in the Company’s results of operations were as follows (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Cost of revenues [(1)]	$ 9,273	$ 7,688	$ 4,971
Selling and marketing (excluding customer base amortization)	6,809	6,881	7,086
Software development	8,985	7,454	7,071
General and administrative	27,188	20,695	19,902
Total stock-based compensation	$ 52,255	$ 42,718	$ 39,030

(1) For the year ended December 31, 2018, stock-based compensation expense includes $1.5 million of expense related to the cash settlement of stock options in connection with the acquisition of Cozy Services, Ltd. See Note 4 for details of the acquisition.

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents. Cash equivalents as of December 31, 2019 and 2018 consisted of money market funds.

Investments

The Company determines the appropriate classification of debt and equity investments at the time of purchase and re-evaluates such designation as of each balance sheet date. The Company's investments consist of long-term variable rate debt instruments with an auction reset feature, referred to as auction rate securities, and are classified as available-for-sale. The Company's auction rate security investments are carried at fair value and any changes in unrealized holding gains and losses, net of the related tax effect, are excluded from earnings and are reported as a separate component of accumulated other comprehensive loss in stockholders’ equity until realized. A decline in market value of any investment below cost that is deemed to be other-than-temporary results in a reduction in carrying amount to fair value. The impairment is charged to earnings and a new cost basis for the security is established. Dividend and interest income are recognized when earned.

Concentration of Credit Risk and Financial Instruments

The Company’s customer base creates a lack of dependence on any individual customer that mitigates the risk of nonpayment of the Company’s accounts receivable. No single customer accounted for more than 5% of the Company’s revenues for each of the years ended December 31, 2019, 2018, and 2017. The carrying amount of the accounts receivable approximates the net realizable value.

The Company holds cash at major financial institutions that often exceed Federal Deposit Insurance Corporation insured limits. The Company manages its credit risk associated with cash concentrations by concentrating its cash deposits in high quality financial institutions and by periodically evaluating the credit quality of the primary financial institutions holding such deposits. The carrying value of cash approximates fair value. Historically, the Company has not experienced any losses due to such cash concentrations.

Accounts Receivable, Net of Allowance for Doubtful Accounts

Accounts receivable are recorded at the invoiced amount net of credits due. Accounts receivable payment terms vary and amounts due from customers are stated in the financial statements net of an allowance for doubtful accounts. When evaluating the adequacy of the allowance for doubtful accounts, the Company analyzes historical collection experience, changes in customer payment profiles and the aging of receivable balances, as well as current economic conditions, all of which may affect a customer's ability to pay.

Leases

On January 1, 2019, the Company adopted Accounting Standards Update ("ASU") 2016-02, *Leases*, later codified as Accounting Standards Codification ("ASC") 842 (*"ASC 842"*), using the modified retrospective method. For periods presented prior to the adoption date, the Company continues to follow its previous policy under *ASC 840, Leases*. For details about the Company's lease policy prior to the adoption of *ASC 842*, refer to the Company's Annual Report on Form 10-K for the year ended December 31, 2017, filed with the Securities and Exchange Commission on February 23, 2018.

The determination of whether an arrangement contains a lease and the classification of a lease, if applicable, is made at lease commencement, at which time the Company also measures and recognizes a right-of-use ("ROU") asset, representing the Company's right to use the underlying asset, and a lease liability, representing the Company's obligation to make lease payments under the terms of the arrangement. For the purposes of recognizing ROU assets and lease liabilities associated with the Company's leases, the Company has elected the practical expedient to not recognize a ROU asset or lease liability for short-term leases, which are leases with a term of twelve months or less. The lease term is defined as the noncancelable portion of the lease term plus any periods covered by an option to extend the lease if it is reasonably certain that that the option will be exercised.

In determining the amount of lease payments used in measuring ROU assets and lease liabilities, the Company has elected the practical expedient not to separate non-lease components from lease components for all classes of underlying assets. Consideration considered part of the lease payments used to measure ROU assets and lease liabilities generally includes fixed payments and variable payments based on either an index or a rate. The ROU asset also includes any lease prepayments, offset by lease incentives. ROU assets and liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. The rates implicit within the Company's leases are generally not determinable, therefore, the Company's incremental borrowing rate is used to determine the present value of lease payments. The determination of the Company's incremental borrowing rate requires judgment. Because the Company currently has no outstanding debt, the incremental borrowing rate for each lease is primarily based on publicly available information for companies within the same industry and with similar credit profiles as the Company. The rate is then adjusted for the impact of collateralization, the lease term and other specific terms included in the Company's lease arrangements. The incremental borrowing rate is determined at lease commencement, or as of January 1, 2019 for operating leases in existence upon adoption of *ASC 842*. The incremental borrowing rate is subsequently reassessed upon a modification to the lease arrangement. ROU assets are subsequently assessed for impairment in accordance with the Company's accounting policy for long-lived assets.

Lease costs related to the Company's operating leases are generally recognized as a single ratable lease cost over the lease term.

See Note 7 for further discussion of the Company's accounting for leases.

Property and Equipment, Net

Property and equipment are stated at cost, net of accumulated depreciation and amortization. All repairs and maintenance costs are expensed as incurred. Costs related to acquisition of additional aircraft components or the replacement of existing aircraft components are capitalized and depreciated over the estimated useful life of the aircraft or the added or replaced component, whichever is less. Depreciation and amortization are calculated on a straight-line basis over the following estimated useful lives of the assets:

Leasehold improvements	Shorter of lease term or useful life
Computer hardware and software	Three to five years
Furniture and office equipment	Five to ten years
Vehicles	Five years
Aircraft	Ten to twenty years

Qualifying internal-use software costs incurred during the application development stage, which consist primarily of internal product development costs, outside services and purchased software license costs are capitalized and amortized over the estimated useful life of the asset. All other costs are expensed as incurred.

Long-Lived Assets, Intangible Assets and Goodwill

Long-lived assets, such as property and equipment, and purchased intangibles subject to amortization, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset or asset group. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized in the amount by which the carrying amount of the asset exceeds the fair value of the asset.

Acquired technology and data, customer base assets, trade names and other intangible assets are related to the Company’s acquisitions (see Notes 4, 9 and 10). Acquired technology and data is amortized on a straight-line basis over periods ranging from one year to eight years. Acquired intangible assets characterized as customer base assets consist of acquired customer contracts and the related customer relationships and are amortized over periods ranging from five years to thirteen years. Acquired customer bases are amortized on an accelerated or straight-line basis depending on the expected economic benefit of the intangible asset. Acquired trade names and other intangible assets are amortized on a straight-line basis over periods ranging from one year to fifteen years.

Goodwill represents the future economic benefits arising from a business combination and is calculated as the excess of the purchase consideration paid in a business combination over the fair value of assets acquired. Goodwill is not amortized, but instead is assigned to each of the Company's reporting units and tested for impairment at least annually on October 1, or more frequently if an event or other circumstance indicates that the fair value of a reporting unit may be below its carrying amount. If it is determined that it is more likely than not that the fair value of a reporting unit is less than its carrying value, or the Company elects to bypass such assessment, the Company then determines the fair value of each reporting unit. The estimate of the fair value of each reporting unit is based on a projected discounted cash flow model that includes significant assumptions and estimates including the discount rate, growth rate and future financial performance. Assumptions about the discount rate are based on a weighted average cost of capital for comparable companies. Assumptions about the growth rate and future financial performance of a reporting unit are based on the Company's forecasts, business plans, economic projections and anticipated future cash flows. The fair value of each reporting unit is compared to the carrying amount of the reporting unit. If the carrying value of the reporting unit exceeds the fair value, then an impairment loss is recognized for the difference.

Debt Issuance Costs

Costs incurred in connection with the issuance of long-term debt are deferred and amortized as interest expense over the term of the related debt using the effective interest method for term debt and on a straight-line basis for revolving debt. To the extent that debt is outstanding, these amounts are reflected in the consolidated balance sheets as direct deductions from a combination of the current and long-term portions of debt for term debt and as current and long-term assets for costs related to revolving debt. Upon a refinancing or amendment, previously capitalized debt issuance costs are expensed and included in loss on extinguishment of debt if the Company determines that there has been a substantial modification of the related debt. If the Company determines that there has not been a substantial modification of the related debt, any previously capitalized debt issuance costs are amortized as interest expense over the term of the new debt instrument. See Note 11 for additional information on the Company's long-term debt and related debt issuance costs.

Business Combinations

The Company allocates the purchase consideration to the tangible assets acquired, liabilities assumed and intangible assets acquired based on their estimated fair values. The purchase price is determined based on the fair value of the assets transferred, liabilities incurred and equity interests issued, after considering any transactions that are separate from the business combination. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. Such valuations require management to make significant estimates and assumptions, especially with respect to intangible assets and contingent liabilities. Significant estimates in valuing certain intangible assets include, but are not limited to, future expected cash flows from acquired customer bases, acquired technology and acquired trade names, useful lives, royalty rates and discount rates. Any adjustments to provisional amounts that are identified during the measurement period are recorded in the reporting period in which the adjustment amounts are determined. Upon the conclusion of the measurement period, any subsequent adjustments are recorded to earnings.

For a given acquisition, the Company may identify certain pre-acquisition contingencies as of the acquisition date and may extend its review and evaluation of these pre-acquisition contingencies throughout the measurement period in order to obtain sufficient information to assess whether the Company includes these contingencies as a part of the fair value estimates of assets acquired and liabilities assumed and, if so, to determine their estimated amounts.

If the Company cannot reasonably determine the fair value of a pre-acquisition contingency (non-income tax related) by the end of the measurement period, which is generally the case given the nature of such matters, the Company will recognize an asset or a liability for such pre-acquisition contingency if: (i) it is probable that an asset existed or a liability had been assumed at the acquisition date and (ii) the amount of the asset or liability can be reasonably estimated. Subsequent to the measurement period, changes in the Company's estimates of such contingencies will affect earnings and could have a material effect on its results of operations and financial position.

In addition, uncertain tax positions and tax related valuation allowances assumed in connection with a business combination are initially estimated as of the acquisition date. The Company reevaluates these items based upon facts and circumstances that existed as of the acquisition date, with any adjustments to its preliminary estimates being recorded to goodwill provided that the Company is within the measurement period. Subsequent to the measurement period, changes to these uncertain tax positions and tax related valuation allowances will affect the Company's provision for income taxes in its consolidated statements of operations and comprehensive income and could have a material impact on its results of operations and financial position.

Recent Accounting Pronouncements

Recently Adopted Accounting Pronouncements

On January 1, 2019, the Company adopted ASU 2016-02, *Leases*, using the modified retrospective method which allows for the application of the transition provisions at the beginning of the period of adoption, rather than at the beginning of the earliest comparative period presented in these consolidated financial statements. As permitted by the guidance, the Company elected to retain the original lease classification and historical accounting for initial direct costs for leases existing prior to the adoption date and did not reassess contracts entered into prior to the adoption date for the existence of a lease. The Company also did not recognize ROU assets and lease liabilities for short-term leases, which are leases in existence as of the adoption date with an original term of twelve months or less.

As a result of the adoption of the standard, the Company recognized ROU assets of $116 million, including prepaid rent and deferred rent that was reclassified and recognized as of the adoption date as a component of the ROU assets, as well as lease liabilities of $150 million on its consolidated balance sheet. The assets and liabilities recognized upon application of the transition provisions were primarily associated with existing office leases. The Company also recognized a cumulative-effect adjustment to beginning retained earnings of $12 million, net of tax, as of January 1, 2019, to recognize the remaining deferred gain on the sale-leaseback of the Company's corporate headquarters building, pursuant to the guidance in *ASC 842*.

Recent Accounting Pronouncements Not Yet Adopted

In December 2019, the FASB issued ASU 2019-12, *Simplifying the Accounting for Income Taxes*, which is intended to simplify various aspects related to accounting for income taxes. ASU 2019-12 removes certain exceptions to the general principles in ASC 740, *Income Tax* and also clarifies and amends existing guidance to improve consistent application. ASU 2019-12 will be effective for public business entities for annual reporting periods beginning after December 15, 2020, and interim periods within those periods. Early adoption is permitted. The Company evaluated the impact of this guidance on its financial statements and related disclosures and has elected to early adopt the guidance as of January 1, 2020. The guidance is not expected to have a material impact on the Company's financial statements and related disclosures. The exceptions removed as part of the standard were determined to be not applicable to the Company. The primary impact from adopting the standard will result in a reclassification of franchise taxes, which previously had been classified as a component of income from operations but will now be classified as a component of income tax expense beginning January 1, 2020.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurements (subsequent to adoption of ASU 2018-13, Fair Value Measurement)*. The ASU was issued to eliminate certain disclosure requirements for fair value measurements, and add and modify other disclosure requirements, as part of its disclosure framework project, including additional requirements for public companies to disclose certain information about the significant unobservable inputs for Level 3 fair value measurements. This guidance is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. The guidance is not expected to have a material impact on the Company's financial statements and related disclosures.

In August 2018, the FASB issued ASU 2018-15, *Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40): Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*. ASU 2018-15 requires a customer in a cloud computing arrangement that is a service contract to follow the internal-use software guidance in ASC 350-40 to determine which implementation costs to defer and recognize as an asset. This guidance is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. The guidance is not expected to have a material impact on the Company's financial statements and related disclosures.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, which is designed to provide financial statement users with more information about the expected credit losses on financial instruments and other commitments to extend credit held by a reporting entity at each reporting date. When determining such expected credit losses, the guidance requires companies to apply a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. This guidance is effective on a modified retrospective basis for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. The guidance is not expected to have a material impact on the Company's financial statements and related disclosures.

3. REVENUE FROM CONTRACTS WITH CUSTOMERS

Disaggregated Revenue

The Company provides information, analytics and online marketplaces to the commercial real estate industry and related professionals. The revenues by operating segment and type of service consist of the following (in thousands):

	Year Ended December 31,					
	2019			2018		
	North America	International	Total	North America	International	Total
Information and analytics						
CoStar Suite	$ 590,222	$ 27,576	$ 617,798	$ 519,661	$ 25,534	$ 545,195
Information services	76,950	11,496	88,446	58,708	8,916	67,624
Online marketplaces						
Multifamily	490,631	—	490,631	405,795	—	405,795
Commercial property and land	202,264	580	202,844	173,137	81	173,218
Total revenues	$ 1,360,067	$ 39,652	$ 1,399,719	$ 1,157,301	$ 34,531	$ 1,191,832

Deferred Revenue

Changes in deferred revenue for the period were as follows (in thousands):

Balance at December 31, 2018	$ 51,459
Revenue recognized in the current period from the amounts in the beginning balance	(49,937)
New deferrals, net of amounts recognized in the current period	68,814
Effects of foreign currency	284
Balance at December 31, 2019 [1]	$ 70,620

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[1] Deferred revenue was comprised of $67 million of current liabilities and $3 million of noncurrent liabilities classified within lease and other long-term liabilities on the Company's consolidated balance sheet as of December 31, 2019. The balance includes $11 million of net new deferrals recognized in connection with business acquisitions made in 2019. See Note 4 for details.

Contract Assets

The Company had contract assets of $4 million and $2 million as of December 31, 2019 and December 31, 2018, respectively; which are generated when contractual billing schedules differ from revenue recognition timing. Contract assets represent a conditional right to consideration for satisfied performance obligations that becomes a receivable when the conditions are satisfied. Current contract assets are included in prepaid expenses and other current assets and non-current contract assets are included in deposits and other assets on the Company's consolidated balance sheets.

Commissions

Commissions expense is included in selling and marketing expense in the Company's consolidated statements of operations. The Company determined that no deferred commissions were impaired as of December 31, 2019. Commissions expense activity as of December 31, 2019 and December 31, 2018 was as follows (in thousands):

	Year Ended December 31,	
	2019	2018
Commissions incurred	$ 87,043	$ 72,899
Commissions capitalized in the current period	(66,688)	(53,497)
Amortization of deferred commissions costs	53,421	48,313
Total commissions expense	$ 73,776	$ 67,715

Refer to Note 2 for the Company's policy on accounting for commissions.

Unsatisfied Performance Obligations

Remaining contract consideration for which revenue had not been recognized due to unsatisfied performance obligations was approximately $257 million at December 31, 2019, which the Company expects to recognize over the next five years. This amount does not include contract consideration for contracts with a duration of one year or less.

4. ACQUISITIONS

STR, Inc. and STR Global Ltd.

On October 22, 2019, the Company acquired all of the issued and outstanding equity interests of STR for a purchase price of $435 million. STR is a global provider of benchmarking and analytics for the hospitality industry. The combination of STR's and CoStar's offerings is expected to allow for the creation of valuable new and improved tools for industry participants. The Company applied the acquisition method to account for the STR transaction, which requires that assets acquired and liabilities assumed be recorded at their fair values as of the acquisition date.

The following table summarizes the amounts recorded for acquired assets and assumed liabilities recorded at their fair values as of the acquisition date (in thousands):

	Preliminary: October 22, 2019
Cash and cash equivalents	$ 11,710
Accounts receivable	8,067
Lease right-of-use assets	7,306
Goodwill	261,436
Intangible assets	178,000
Lease liabilities	(7,306)
Deferred revenue	(10,966)
Deferred tax liabilities	(7,980)
Other assets and liabilities	(4,815)
Fair value of identifiable net assets acquired	$ 435,452

The net assets of STR were recorded at their estimated fair values. In valuing the acquired assets and assumed liabilities, fair value estimates were based primarily on future expected cash flows, market rate assumptions for contractual obligations and appropriate discount rates. The purchase price allocation is preliminary, subject to the final determination of net working capital as of the acquisition date and the Company's assessment of certain tax matters. The customer base assets incorporated significant assumptions that had a material impact on the estimated fair value, such as discount rates, projected revenue growth rates, customer attrition rates and projected profit margins. The following table summarizes the fair values (in thousands) of the identifiable intangible assets included in each of the Company's operating segments, their related estimated useful lives (in years) and their respective amortization methods:

	North America		International		
	Estimated Fair Value	**Estimated Useful Life**	**Estimated Fair Value**	**Estimated Useful Life**	**Amortization Method**
Customer base	$ 97,000	13	$ 42,000	10	Accelerated
Trade name	24,000	15			Straight-line
Other intangible assets	10,000	5	5,000	5	Straight-line
Total intangible assets	$ 131,000		$ 47,000		

Goodwill is calculated as the excess of the consideration transferred over the net assets recognized and represents the future economic benefits arising from other assets acquired that could not be individually identified and separately recognized. Specifically, the goodwill recorded as part of the STR acquisition includes but is not limited to: (i) the expected synergies and other benefits that the Company believes will result from combining its operations with STR's operations; and (ii) any intangible assets that do not qualify for separate recognition, such as the assembled workforce. Goodwill recorded in connection with this acquisition is not amortized, but is subject to an annual impairment test. Of the $261 million of goodwill recorded as part of the acquisition, $159 million and $102 million are associated with the Company's North America and International operating segments, respectively. The goodwill recognized in the North America operating segment is expected to be deductible for income tax purposes in future periods.

As part of the STR acquisition, the Company incurred $2 million of transaction costs. Additionally, the Company paid $15 million cash into a cash escrow account for deferred compensation for certain STR employees, to be paid to active employees after a defined one year period following the acquisition or when earlier terminated without cause or terminated for good reason. In the event some or all of those employees are not entitled to their retention bonus, the funds will be remitted to the seller. The Company is recognizing compensation expense for the deferred compensation over the one year post-combination period.

ForRent

On February 21, 2018, the Company acquired all of the issued and outstanding capital stock of DE Holdings, Inc., including its ForRent division ("ForRent"), a wholly owned subsidiary of Dominion Enterprises ("Seller"), for a purchase price of approximately $376 million. The purchase price was comprised of approximately $340 million in cash and 103,280 shares of Company common stock, valued at approximately $36 million. ForRent's primary service is digital advertising provided through a network of four multifamily websites. The acquisition has yielded increased revenue, significant cost synergies and an improved competitive position in the industry. The Company applied the acquisition method to account for the ForRent transaction, which requires that assets acquired and liabilities assumed be recorded at their fair values as of the acquisition date.

The following table summarizes the amounts recorded for acquired assets and assumed liabilities recorded at their fair values as of the acquisition date (in thousands):

	Final: February 21, 2018
Cash and cash equivalents	$ 59
Accounts receivable	8,769
Indemnification asset	5,443
Goodwill	266,595
Intangible assets	141,300
Deferred tax liabilities	(34,032)
Contingent sales tax liability	(6,260)
State uncertain income tax position liability	(2,047)
Other assets and liabilities	(3,535)
Fair value of identifiable net assets acquired	$ 376,292

The net assets of ForRent were recorded at their estimated fair values. In valuing acquired assets and assumed liabilities, fair value estimates were based primarily on future expected cash flows, market rate assumptions for contractual obligations and appropriate discount rates. Measurement period adjustments related to the determination of working capital as of the acquisition date and recognized in 2018 were not material.

The acquired customer base for the acquisition is composed of acquired customer contracts and the related customer relationships, and has a weighted average estimated useful life of ten years. The acquired technology has an estimated useful life of three years. The acquired trade name has a weighted average estimated useful life of ten years. The acquired building photography had an estimated useful life of one year. Amortization of the acquired customer base is recognized on an accelerated basis related to the expected economic benefit of the intangible asset, while amortization of the acquired technology, acquired building photography and acquired trade names and other intangible assets is recognized on a straight-line basis over their respective estimated useful lives. Goodwill recorded in connection with this acquisition is not amortized, but is subject to an annual impairment test. The $267 million of goodwill recorded as part of the acquisition is associated with the Company's North America operating segment. $8 million of goodwill that was recognized is expected to be deductible for income tax purposes in future periods.

Goodwill is calculated as the excess of the consideration transferred over the net assets recognized and represents the future economic benefits arising from other assets acquired that could not be individually identified and separately recognized. Specifically, the goodwill recorded as part of the ForRent acquisition includes but is not limited to: (i) the expected synergies and other benefits that the Company believes will result from combining its operations with ForRent's operations; and (ii) any intangible assets that do not qualify for separate recognition, such as the assembled workforce.

Upon acquisition, the Company assessed the (i) probability of a contingent sales tax liability and (ii) a state uncertain income tax position liability due to apportionment factors, and recorded accruals of $6 million and $2 million, respectively. The Company could not determine the fair value for the pre-acquisition state sales tax liability and therefore estimated a liability in accordance with *ASC 450, Contingencies*, using a state-by-state assessment. The uncertain income tax position was determined in accordance with the provisions of *ASC 740, Income Tax*, and was recorded as part of the purchase price allocation. The Seller has provided an indemnity for tax liabilities related to periods prior to the acquisition. The Seller's indemnification obligation for sales taxes in the state of Texas is limited to approximately $2 million. The total sales tax and uncertain income tax indemnification assets established as of the acquisition date were $5 million and $2 million, respectively. $0.9 million and $0.5 million of the contingent sales tax liability and related indemnification asset recognized as of the acquisition date were reversed during 2019 and 2018, respectively, upon expiration of the statute of limitations applicable to the contingent sales tax liability. $0.6 million and $0.9 million of the uncertain income tax position liability and related indemnification asset recognized as of the acquisition date were reversed during 2019 and 2018, respectively, upon expiration of the statute of limitations applicable to the uncertain income tax position.

As part of the ForRent acquisition, the Company incurred $3 million of transaction costs. Additionally, the Company paid $12 million cash into a cash escrow account for retention compensation for certain ForRent employees, payable if they remained employed by the Company for a defined six-month period following the acquisition or were earlier terminated without cause or resigned for good reason. In the event funds remained in the escrow account after the employees were compensated and the defined six-month period ended, those funds were remitted to the Seller. The Company expensed all of the retention compensation as the services were performed in the post-combination period in 2018.

Other Acquisitions

On June 12, 2019, the Company acquired Off Campus Partners, LLC ("OCP"), a provider of student housing marketplace content and technology to U.S. universities for $16 million. The purchase agreement required an initial payment of $14 million, net of cash acquired, at the time of closing, with the remainder of the purchase price payable one year following the acquisition date, subject to offset for indemnification claims or adjustments to the purchase price after final determination of closing net working capital. As part of the acquisition, the Company recorded goodwill and intangibles assets of $8 million and $9 million, respectively. The net assets of OCP were recorded at their estimated fair value. The estimated fair values are preliminary, subject to the Company's assessment of certain tax matters. Measurement period adjustments recognized in 2019 were not material.

On November 8, 2018, the Company acquired Cozy Services, Ltd. ("Cozy"), a provider of online rental solutions that provides a broad spectrum of services to both landlords and tenants, for $65 million, net of cash acquired. As part of the acquisition, the Company recorded goodwill and intangible assets of $52 million and $11 million, respectively. The net assets of Cozy were recorded at their estimated fair value. Measurement period adjustments recognized in 2019 were not material.

On October 12, 2018, the Company acquired Realla Ltd. ("Realla"), the operator of a commercial property listings and data management platform in the U.K. for £12 million ($15 million). The purchase agreement required an initial payment of £10 million ($13 million), net of cash acquired, at the time of closing, with the remainder of the purchase price paid one year following the acquisition date, subject to offset for claims under the purchase agreement. In connection with the acquisition, the Company recorded goodwill and intangible assets of £8 million ($10 million) and £4 million ($5 million), respectively. The net assets of Realla were recorded at their estimated fair value. Measurement period adjustments recognized in 2019 were not material.

Pro Forma Financial Information

The unaudited pro forma financial information presented below summarizes the combined results of operations for the Company, ForRent and STR as though the companies were combined as of January 1, 2017 and January 1, 2018, respectively. The impact of Realla, Cozy and OCP on the pro forma financial information was not material and therefore those acquisitions were not included. The unaudited pro forma financial information for all periods presented includes amortization charges from acquired intangible assets, retention compensation, as referenced above, and the related tax effects, along with certain other accounting effects, but excludes the impacts of any expected operational synergies. The unaudited pro forma financial information as presented below is for informational purposes only and is not necessarily indicative of the results of operations that would have been achieved if the acquisitions of ForRent and STR had taken place on January 1, 2017 and January 1, 2018, respectively.

The unaudited pro forma financial information for the years ended December 31, 2019, 2018 and 2017 combine the historical results of the Company for the years ended December 31, 2019, 2018 and 2017, the historical results of ForRent and STR for the periods prior to the acquisition dates, and the effects of the pro forma adjustments listed above.

The unaudited pro forma financial information, in aggregate, was as follows (in thousands, except per share data):

	Year Ended December 31,		
	2019	**2018**	**2017**
Revenue	$ 1,450,954	$ 1,264,696	$ 1,067,742
Net income	$ 306,755	$ 226,305	$ 103,000
Net income per share - basic	$ 8.45	$ 6.28	$ 3.09
Net income per share - diluted	$ 8.37	$ 6.21	$ 3.06

Revenue and net loss attributable to STR from October 22, 2019 through December 31, 2019 was not material. The Company began integrating the sales force and operations of ForRent after the closing of the acquisition in an effort to create operating synergies. As a result of these integration activities, it is impracticable to disclose revenue and earnings from ForRent from the acquisition date through December 31, 2018.

5. INVESTMENTS

The Company's investments consist of long-term variable rate debt instruments with an auction reset feature, referred to as auction rate securities ("ARS"), and are classified as available-for-sale and are carried at fair value.

Scheduled maturities of investments classified as available-for-sale as of December 31, 2019 are as follows (in thousands):

Maturity	Fair Value
Due in:	
2020	$ —
2021 — 2024	—
2025 — 2029	—
2030 and thereafter	10,070
Available-for-sale investments	$ 10,070

The Company had no realized gains or losses on its investments during the years ended December 31, 2019, 2018 and 2017. Realized gains and losses from the sale of available-for-sale securities are determined on a specific-identification basis.

As of December 31, 2019, the amortized cost basis and fair value of investments classified as available-for-sale were as follows (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Auction rate securities	$ 10,800	$ —	$ (730)	$ 10,070
Available-for-sale investments	$ 10,800	$ —	$ (730)	$ 10,070

As of December 31, 2018, the amortized cost basis and fair value of investments classified as available-for-sale were as follows (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Auction rate securities	$ 10,800	$ —	$ (730)	$ 10,070
Available-for-sale investments	$ 10,800	$ —	$ (730)	$ 10,070

The unrealized losses on the Company’s investments as of December 31, 2019 and 2018 were generated primarily from changes in interest rates and ARS that failed to settle at auction, due to adverse conditions in the global credit markets. The losses are considered temporary, as the contractual terms of these investments do not permit the issuer to settle the security at a price less than the amortized cost of the investment. Because the Company does not intend to sell these instruments and it is not more likely than not that the Company will be required to sell these instruments prior to anticipated recovery, which may be at maturity, the Company does not consider these investments to be other-than-temporarily impaired as of December 31, 2019 and 2018. See Note 6 for further discussion of the fair value of the Company’s financial assets.

The components of the Company’s investments in an unrealized loss position for twelve months or longer were as follows (in thousands):

	December 31,			
	2019		2018	
	Aggregate Fair Value	Gross Unrealized Losses	Aggregate Fair Value	Gross Unrealized Losses
Auction rate securities	$ 10,070	$ (730)	$ 10,070	$ (730)
Investments in an unrealized loss position	$ 10,070	$ (730)	$ 10,070	$ (730)

The Company did not have any investments in an unrealized loss position for less than twelve months as of December 31, 2019 and 2018, respectively.

6. FAIR VALUE

Fair value is defined as the price that would be received in the sale of an asset or paid to transfer a liability in an orderly transaction between market participants. There is a three-tier fair value hierarchy, which categorizes the inputs used in measuring fair value. These tiers include: Level 1, defined as observable inputs such as quoted prices in active markets for identical assets or liabilities; Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable; and Level 3, defined as unobservable inputs for which little or no market data exists, therefore requiring an entity to develop its own assumptions.

The following table represents the Company's fair value hierarchy for its financial assets (cash equivalents and investments) measured at fair value on a recurring basis as of December 31, 2019 (in thousands):

	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	$ 576,761	$ —	$ —	$ 576,761
Auction rate securities	—	—	10,070	10,070
Total assets measured at fair value	$ 576,761	$ —	$ 10,070	$ 586,831

The following table represents the Company's fair value hierarchy for its financial assets (cash equivalents and investments) measured at fair value on a recurring basis as of December 31, 2018 (in thousands):

	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	$ 590,567	$ —	$ —	$ 590,567
Auction rate securities	—	—	10,070	10,070
Total assets measured at fair value	$ 590,567	$ —	$ 10,070	$ 600,637

The carrying value of accounts receivable, accounts payable and accrued expenses approximates fair value.

The Company’s Level 3 assets consist of ARS, whose underlying assets are primarily student loan securities supported by guarantees from the Federal Family Education Loan Program (“FFELP”) of the U.S. Department of Education.

The following table summarizes changes in fair value of the Company’s Level 3 assets from December 31, 2017 to December 31, 2019 (in thousands):

	Auction Rate Securities
Balance at December 31, 2017	$ 10,070
Decrease in unrealized loss included in accumulated other comprehensive loss	—
Balance at December 31, 2018	10,070
Decrease in unrealized loss included in accumulated other comprehensive loss	—
Balance at December 31, 2019	$ 10,070

ARS are variable rate debt instruments whose interest rates are reset approximately every 28 days. The underlying securities have contractual maturities greater than twenty years. The ARS are recorded at fair value.

As of December 31, 2019, the Company held ARS with $11 million par value, all of which failed to settle at auction. The majority of these investments are of high credit quality and are primarily student loan securities supported by guarantees from the FFELP of the U.S. Department of Education. The Company may not be able to liquidate and fully recover the carrying value of the ARS in the near term. As a result, these securities are classified as long-term investments in the Company’s consolidated balance sheet as of December 31, 2019. See Note 5 for further discussion of the scheduled maturities of investments classified as available-for-sale.

While the Company continues to earn interest on its ARS investments at the contractual rate, these investments are not currently actively trading and therefore do not currently have a readily determinable market value. The estimated fair value of the ARS no longer approximates par value. The Company used a discounted cash flow model to determine the estimated fair value of its investment in ARS as of December 31, 2019. The assumptions used in preparing the discounted cash flow model include estimates for interest rates, credit spreads, timing and amount of contractual cash flows, liquidity risk premiums, expected holding periods and default risk. The Company updates the discounted cash flow model on a quarterly basis to reflect any changes in the assumptions used in the model and settlements of ARS investments that occurred during the period.

The only significant unobservable input in the discounted cash flow model is the discount rate. The discount rate used represents the Company's estimate of the yield expected by a market participant from the ARS investments. The weighted average discount rate used in the discounted cash flow models as of December 31, 2019 and 2018 was approximately 5% and 6%, respectively. Selecting another discount rate within the range used in the discounted cash flow model would not result in a significant change to the fair value of the ARS.

Based on this assessment of fair value, as of December 31, 2019, the Company determined there was no decline in the fair value of its ARS investments. In addition, the ARS are of high credit quality, if the issuers are unable to successfully close future auctions and/or their credit ratings deteriorate, the Company may be required to record additional unrealized losses in accumulated other comprehensive loss or an other-than-temporary impairment charge to earnings on these investments.

7. LEASES

The Company has operating leases for its office facilities, data centers and certain vehicles, as well as finance leases for office equipment. The Company's leases have remaining terms of less than one year to nine years. The leases contain various renewal and termination options. The period which is subject to an option to extend the lease is included in the lease term if it is reasonably certain that the option will be exercised. The period which is subject to an option to terminate the lease is included if it is reasonably certain that the option will not be exercised.

Lease costs related to the Company's operating leases included in the consolidated statements of operations were as follows (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Operating lease costs:			
Cost of revenues	$ 11,407	$ 11,926	$ 10,214
Software development	4,209	3,335	2,721
Selling and marketing (excluding customer base amortization)	8,678	9,068	8,279
General and administrative	3,299	3,789	4,467
Total operating lease costs	$ 27,593	$ 28,118	$ 25,681

The impact of lease costs related to finance leases and short-term leases was not material for the years ended December 31, 2019, 2018 and 2017.

Supplemental balance sheet information related to operating leases was as follows (in thousands):

Balance	Balance Sheet Location	December 31, 2019
Long-term lease liabilities	Lease and other long-term liabilities	$ 120,153
Weighted-average remaining lease term in years		5.0
Weighted-average discount rate		4.0%

Balance sheet information related to finance leases was not material as of December 31, 2019.

Supplemental cash flow information related to leases was as follows (in thousands):

	December 31, 2019
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows used in operating leases	$ 30,287
ROU assets obtained in exchange for lease obligations:	
Operating leases	$ 22,629

Maturities of operating lease liabilities at December 31, 2019 were as follows (in thousands):

January 1, 2020 - December 31, 2020	$	34,976
January 1, 2021 - December 31, 2021		33,760
January 1, 2022 - December 31, 2022		30,938
January 1, 2023 - December 31, 2023		29,663
January 1, 2024 - December 31, 2024		23,972
Thereafter		12,233
Total lease payments		165,542
Less imputed interest		(15,719)
Present value of lease liabilities	$	149,823

8. PROPERTY AND EQUIPMENT

Property and equipment consists of the following (in thousands):

	December 31,			
	2019		2018	
Leasehold improvements	$	73,918	$	65,332
Furniture, office equipment and vehicles		60,768		50,224
Computer hardware and software		80,947		74,742
Aircraft		27,657		2,796
Property and equipment, gross		243,290		193,094
Accumulated depreciation and amortization		(135,761)		(109,791)
Property and equipment, net	$	107,529	$	83,303

Depreciation expense for property and equipment was approximately $26 million, $26 million and $26 million, for the years ended December 31, 2019, 2018 and 2017, respectively.

9. GOODWILL

The changes in the carrying amount of goodwill by operating segment consist of the following (in thousands):

	North America		International		Total	
Goodwill, December 31, 2017	$	1,253,494	$	29,963	$	1,283,457
Acquisition		319,594		10,344		329,938
Effect of foreign currency translation		—		(1,860)		(1,860)
Goodwill, December 31, 2018		1,573,088		38,447		1,611,535
Acquisitions		165,272		102,532		267,804
Effect of foreign currency translation		—		2,681		2,681
Goodwill, December 31, 2019	$	1,738,360	$	143,660	$	1,882,020

The Company recorded goodwill of approximately $261 million in connection with the October 22, 2019 acquisition of STR. The Company recorded goodwill of approximately $8 million in connection with the June 2019 acquisition of OCP. The Company recorded goodwill of approximately $53 million in connection with the November 8, 2018 acquisition of Cozy, a provider of online rental solutions that provides a broad spectrum of services to both landlords and tenants, including property listings, rent estimates, rental applications, tenant screening, online rent payments and expense tracking. The Company recorded a measurement period adjustment during 2019 which resulted in a $1 million reduction to the initial amount of goodwill recognized in connection with this acquisition. The Company recorded goodwill of approximately $10 million in connection with the October 12, 2018 acquisition of Realla. The Company recorded goodwill of approximately $267 million in connection with the February 21, 2018 acquisition of ForRent. The total amount of goodwill that is expected to be deductible for tax purposes is approximately $166 million as of December 31, 2019.

No impairments of the Company's goodwill were recognized during the years ended December 31, 2019, 2018 and 2017.

10. INTANGIBLE ASSETS

Intangible assets consist of the following (in thousands, except amortization period data):

	December 31,		Weighted-Average Amortization Period (in years)
	2019	2018	
Acquired technology and data	105,168	103,128	5
Accumulated amortization	(90,542)	(85,344)	
Acquired technology, net	14,626	17,784	
Acquired customer base	487,532	339,574	11
Accumulated amortization	(233,202)	(199,405)	
Acquired customer base, net	254,330	140,169	
Acquired trade names and other intangible assets	236,358	199,752	12
Accumulated amortization	(84,118)	(68,794)	
Acquired trade names and other intangible assets, net	152,240	130,958	
Intangible assets, net	$ 421,196	$ 288,911	

Amortization expense for intangible assets was approximately $55 million, $52 million and $37 million for the years ended December 31, 2019, 2018 and 2017, respectively.

In the aggregate, the Company expects the future amortization expense for intangible assets existing as of December 31, 2019 to be approximately $72 million, $61 million, $51 million, $45 million and $39 million for the years ending December 31, 2020, 2021, 2022, 2023 and 2024, respectively.

Intangible assets are reviewed for impairment at least annually and more frequently whenever events or changes in circumstances indicate that the carrying value of such assets may not be recoverable. No impairments of the Company's intangible assets were recognized during the years ended December 31, 2019, 2018 and 2017.

11. LONG-TERM DEBT

On October 19, 2017, the Company entered into an amended and restated credit agreement (the ‘‘2017 Credit Agreement’’), which amended and restated in its entirety the then-existing credit agreement dated April 1, 2014 (the "2014 Credit Agreement"). The 2017 Credit Agreement provides for a $750 million revolving credit facility with a term of five years from a syndicate of financial institutions as lenders and issuing banks. The 2017 facility may be used for working capital and other general corporate purposes of the Company and its subsidiaries.

Up to $20 million of the revolving credit facility is available for the issuance of letters of credit. The Company had an irrevocable standby letter of credit outstanding totaling $0.2 million as of December 31, 2019 and December 31, 2018, which was required to secure its San Francisco office lease. The letter of credit was established in 2014 and automatically renews through January 31, 2025.

The loans under the 2017 Credit Agreement bear interest during any interest period selected by the Company, at either (i) the London interbank offered rate for deposits in U.S. dollars with a maturity comparable to such interest period, adjusted for statutory reserves (“LIBOR”), plus an initial spread of 1.25% per annum, subject to adjustment based on the First Lien Secured Leverage Ratio (as defined in the 2017 Credit Agreement) of the Company, or (ii) at the greatest of (x) the prime rate from time to time announced by JPMorgan Chase Bank, N.A., (y) the federal funds effective rate plus half of 1% and (z) LIBOR for a one-month interest period plus 1.00%, plus an initial spread of 0.25% per annum, subject to adjustment based on the First Lien Secured Leverage Ratio of the Company. If an event of default occurs under the 2017 Credit Agreement, the interest rate on overdue amounts will increase by 2.00% per annum. The obligations under the 2017 Credit Agreement are guaranteed by all material subsidiaries of the Company and are secured by a lien on substantially all of the assets of the Company and its material subsidiaries, in each case subject to certain exceptions, pursuant to security and guarantee agreements entered into on the closing date of the 2017 Credit Agreement. LIBOR may not always be available to the Company as a base interest rate for the credit facility, and the transition away from LIBOR is anticipated to begin in 2021, though it may become unavailable even earlier. The Company may need or seek to negotiate with its lenders for an alternative rate. In doing so, the Company may not be able to agree with its lenders on a replacement reference rate that was favorable as LIBOR, which may increase our capital costs.

The 2017 Credit Agreement requires the Company to maintain (i) a First Lien Secured Leverage Ratio not exceeding 3.50 to 1.00 and (ii) after the incurrence of additional indebtedness under certain specified exceptions in the 2017 Credit Agreement, a Total Leverage Ratio (as defined in the 2017 Credit Agreement) not exceeding 4.50 to 1.00. The 2017 Credit Agreement also includes other covenants, including ones that subject to certain exceptions, restrict the ability of the Company and its subsidiaries to (i) incur additional indebtedness, (ii) create, incur, assume or permit to exist any liens, (iii) enter into mergers, consolidations or similar transactions, (iv) make investments and acquisitions, (v) make certain dispositions of assets, (vi) make dividends, distributions and prepayments of certain indebtedness, and (vii) enter into certain transactions with affiliates. The Company was in compliance with the covenants in the 2017 Credit Agreement as of December 31, 2019.

The Company had no outstanding long-term debt at December 31, 2019 and December 31, 2018. For the years ended December 31, 2019, 2018 and 2017, the Company recognized interest expense of $3 million, $3 million and $9 million, including amortized debt issuance costs of approximately $0.9 million, $1 million and $2 million, respectively. The Company had $2 million and $3 million of deferred debt issuance costs included in deposits and other assets at December 31, 2019 and December 31, 2018, respectively.

12. INCOME TAXES

The components of the provision for income taxes attributable to operations consist of the following (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Current:			
Federal	$ 53,039	$ 36,167	$ 41,453
State	13,422	5,140	3,518
Foreign	1,305	708	295
Total current	67,766	42,015	45,266
Deferred:			
Federal	6,881	6,576	(7,917)
State	2,424	(2,582)	4,695
Foreign	(1,085)	(328)	319
Total deferred	8,220	3,666	(2,903)
Total provision for income taxes	$ 75,986	$ 45,681	$ 42,363

The components of deferred tax assets and liabilities consist of the following (in thousands):

	December 31,	
	2019	2018
Deferred tax assets:		
Reserve for bad debts	1,312	1,457
Accrued compensation	4,297	4,803
Stock compensation	13,877	10,041
Net operating losses	20,555	26,349
Accrued reserve and other	4,177	1,773
Lease liabilities	36,472	—
Deferred rent	—	5,928
Deferred gain on the sale of building	—	4,140
Research and development credits	6,341	6,331
Total deferred tax assets, prior to valuation allowance	87,031	60,822
Valuation allowance	(13,553)	(14,246)
Total deferred tax assets, net of valuation allowance	73,478	46,576
Deferred tax liabilities:		
Deferred commission costs, net	(22,612)	(19,314)
Lease right-of-use assets	(30,830)	—
Prepaid expenses	(1,548)	(2,204)
Property and equipment, net	(8,891)	(5,367)
Intangible assets, net	(91,285)	(82,079)
Total deferred tax liabilities	(155,166)	(108,964)
Net deferred tax assets (liabilities)	$ (81,688)	$ (62,388)

As of December 31, 2019 and 2018, a valuation allowance has been established for certain deferred tax assets due to the uncertainty of realization. The valuation allowance as of December 31, 2019 and 2018 includes an allowance for unrealized losses on ARS investments, foreign deferred tax assets and state net operating losses and tax credits. The valuation allowance for the deferred tax asset for unrealized losses on ARS has been recorded as an adjustment to accumulated other comprehensive loss.

The Company established the valuation allowance because it is more likely than not that a portion of the deferred tax asset for certain items will not be realized based on the weight of available evidence. A valuation allowance was established for the unrealized losses on securities as the Company has not historically generated capital gains, and it is uncertain whether the Company will generate sufficient capital gains in the future to absorb the capital losses. A valuation allowance was established for the foreign deferred tax assets due to the cumulative loss in recent years in those jurisdictions. The Company has not had sufficient taxable income historically to utilize the foreign deferred tax assets, and it is uncertain whether the Company will generate sufficient taxable income in the future to utilize the deferred tax assets. Similarly, the Company has established a valuation allowance for net operating losses and tax credits in certain states where it is uncertain whether the Company will generate sufficient taxable income to utilize the net operating losses and tax credits before they expire.

The Company's change in valuation allowance was a decrease of approximately $0.7 million for the year ended December 31, 2019 and an increase of approximately $1 million for the year ended December 31, 2018. The decrease for the year ended December 31, 2019 is due to a decrease in foreign net operating loss deferred tax assets for which a full valuation allowance of approximately $1.1 million had been established, partially offset by an increase in the valuation allowance for state tax credits related to the D.C. qualified high technology company credit of approximately $0.4 million. The increase for the year ended December 31, 2018 is due to an increase in the valuation allowance for state tax credits related to the D.C. qualified high technology company credit of approximately $1 million.

The Company had U.S. income before income taxes of approximately $403 million, $294 million and $167 million for the years ended December 31, 2019, 2018 and 2017, respectively. The Company had foreign losses before income taxes of approximately $12 million, $10 million, and $2 million for the years ended December 31, 2019, 2018 and 2017, respectively.

The Company's provision for income taxes resulted in effective tax rates that varied from the statutory federal income tax rate as follows (in thousands):

	Year Ended December 31,		
	2019	**2018**	**2017**
Expected federal income tax provision at statutory rate	$ 82,099	$ 59,643	$ 57,770
State income taxes, net of federal benefit	14,884	10,312	4,776
Foreign income taxes, net effect	1,515	(315)	(3,540)
Increase (decrease) in valuation allowance	(693)	1,214	3,624
Tax rate changes	(13)	141	(7,340)
Research credits	(12,188)	(15,373)	(20,547)
Excess tax benefit	(15,282)	(14,227)	(7,010)
Tax reserves	3,135	1,870	12,646
Other adjustments	2,529	2,416	1,984
Income tax expense	$ 75,986	$ 45,681	$ 42,363

Certain of the Company's U.K. subsidiaries with foreign losses are disregarded entities for U.S. income tax purposes. Accordingly, the losses from these disregarded entities are included in the Company's consolidated federal income tax provision at the statutory rate. Federal income taxes attributable to income from these disregarded entities are reduced by foreign taxes paid by those disregarded entities.

The Company has net operating loss carryforwards for international income tax purposes of approximately $45 million, which do not expire. The Company has federal net operating loss carryforwards of approximately $28 million that begin to expire in 2020, state net operating loss carryforwards with a tax value of approximately $2 million that begin to expire in 2020 and state income tax credit carryforwards with a tax value of approximately $11 million primarily relating to state research and development credits and the D.C. qualified high technology company tax credit that begin to expire in 2020. The Company realized a cash benefit relating to the use of its tax loss carryforwards of approximately $6 million, $6 million and $7 million in December 31, 2019, 2018 and 2017, respectively.

The following table summarizes the activity related to the Company’s unrecognized tax benefits (in thousands):

Unrecognized tax benefit as of December 31, 2016	$ 1,843
Increase for current year tax positions	12,620
Decrease for prior year tax positions	(34)
Expiration of the statute of limitation for assessment of taxes	(66)
Unrecognized tax benefit as of December 31, 2017	14,363
Increase for current year tax positions	9,561
Decrease for prior year tax positions	(70)
Expiration of the statute of limitation for assessment of taxes	(1,482)
Unrecognized tax benefit as of December 31, 2018	22,372
Increase for current year tax positions	3,487
Increase for prior year tax positions	440
Expiration of the statute of limitation for assessment of taxes	(832)
Unrecognized tax benefit as of December 31, 2019	$ 25,467

Approximately $25 million and $22 million of the unrecognized tax benefits as of December 31, 2019 and 2018, respectively, would favorably affect the annual effective tax rate, if recognized in future periods. The increase for current year and prior year tax positions of $4 million for the year ended December 31, 2019 is primarily attributable to research credits. The decrease for expiration of the statute of limitation of $1 million for the year ended December 31, 2019 is primarily attributable to a state apportionment methodology reserve. The Company recognized $0.2 million, $0.2 million, and $0.1 million for interest and penalties in its consolidated statement of operations for the years ended December 31, 2019, 2018, 2017 respectively. The Company had liabilities of $0.6 million, $0.4 million, and $0.2 million for interest and penalties in its consolidated balance sheets as of December 31, 2019, 2018, 2017 respectively. The Company does not anticipate the amount of the unrecognized tax benefits will change significantly over the next twelve months.

The Company is subject to taxation in the U.S. federal jurisdiction and various states and foreign jurisdictions. The Company’s federal income tax returns for tax years 2013 through 2018 remain open to examination. The Company is under Internal Revenue Service examination for tax year 2013 related to the research and development credit. Most of the Company’s state income tax returns for tax years 2016 through 2018 remain open to examination. For states that have a four-year statute of limitations, the state income tax returns for tax years 2015 through 2018 remain open to examination. The Company’s U.K. income tax returns for tax years 2014 through 2018 remain open to examination. The Company believes that an adequate provision has been made for any adjustments that may result from tax examinations.

13. COMMITMENTS AND CONTINGENCIES

The Company leases office facilities under various non-cancelable operating leases. The leases contain various renewal options. See Note 7 for further discussion of the Company's operating lease commitments.

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Currently, and from time to time, the Company is involved in litigation incidental to the conduct of its business. In accordance with GAAP, the Company records a provision for a liability when it is both probable that a liability has been incurred and the amount can be reasonably estimated. While it is reasonably possible that an unfavorable outcome may occur as a result of one or more of the Company’s current litigation matters, at this time management has concluded that the resolutions of these matters are not expected to have a material effect on the Company's consolidated financial position, future results of operations or liquidity. Legal defense costs are expensed as incurred. During the year ended December 31, 2019, the Company received $11 million of legal settlement proceeds, which have been included in interest and other income on the Company's consolidated statements of operations.

14. SEGMENT REPORTING

Segment Information

The Company manages its business geographically in two operating segments, with the primary areas of measurement and decision-making being North America, which includes the U.S. and Canada, and International, which primarily includes Europe, Asia-Pacific and Latin America. Management relies on an internal management reporting process that provides revenue and operating segment net income before interest and other income (expense), loss on debt extinguishment, income taxes, depreciation and amortization ("EBITDA"). Management believes that operating segment EBITDA is an appropriate measure for evaluating the operational performance of the Company's operating segments. EBITDA is used by management to internally measure operating and management performance and to evaluate the performance of the business. However, this measure should be considered in addition to, not as a substitute for or superior to, income from operations or other measures of financial performance prepared in accordance with GAAP.

Summarized information by operating segment consists of the following (in thousands):

	Year Ended December 31,		
	2019	2018	2017
EBITDA			
North America	$ 451,699	$ 358,036	$ 236,906
International	(6,987)	(6,729)	553
Total EBITDA	$ 444,712	$ 351,307	$ 237,459

The reconciliation of net income to EBITDA consists of the following (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Net income	$ 314,963	$ 238,334	$ 122,695
Amortization of acquired intangible assets in cost of revenues	21,357	20,586	19,707
Amortization of acquired intangible assets in operating expenses	33,995	30,881	17,684
Depreciation and other amortization	25,813	26,276	26,252
Interest and other income	(30,017)	(13,281)	(4,044)
Interest and other expense	2,615	2,830	9,014
Loss on debt extinguishment	—	—	3,788
Income tax expense	75,986	45,681	42,363
EBITDA	$ 444,712	$ 351,307	$ 237,459

Summarized information by operating segment consists of the following (in thousands):

	December 31,	
	2019	2018
Property and equipment, net		
North America	$ 103,383	$ 79,493
International	4,146	3,810
Total property and equipment, net	$ 107,529	$ 83,303
Goodwill		
North America	$ 1,738,360	$ 1,573,088
International	143,660	38,447
Total goodwill	$ 1,882,020	$ 1,611,535
Assets		
North America	$ 3,615,258	$ 3,253,035
International	238,728	59,922
Total assets	$ 3,853,986	$ 3,312,957
Liabilities		
North America	$ 402,759	$ 272,776
International	45,634	18,239
Total liabilities	$ 448,393	$ 291,015

15. STOCKHOLDERS' EQUITY

Preferred Stock

The Company has 2 million shares of preferred stock, $0.01 par value, authorized for issuance as of December 31, 2019. The Board of Directors may issue the preferred stock from time to time as shares of one or more classes or series.

Common Stock

The Company has 60 million shares of common stock, $0.01 par value, authorized for issuance. Dividends may be declared and paid on the common stock, subject in all cases to the rights and preferences of the holders of preferred stock and authorization by the Board of Directors. In the event of liquidation or winding up of the Company and after the payment of all preferential amounts required to be paid to the holders of any series of preferred stock, any remaining funds shall be distributed among the holders of the issued and outstanding common stock.

Equity Offering

In October 2017, the Company completed a public equity offering of 3.3 million shares of common stock for $260 per share. Net proceeds from the public equity offering were approximately $834 million, after deducting approximately $29 million of underwriting discounts and other fees. The Company used net proceeds from the public equity offering to fund the costs of strategic acquisitions, to finance business growth and for working capital and other general corporate purposes. The Company expects to use any remaining net proceeds from the equity offering to fund all or a portion of the costs of any additional strategic acquisitions the Company determines to pursue, to finance the growth of its business and for working capital and other general corporate purposes. General corporate purposes may include additions to working capital, capital expenditures, repayment of debt, investments in the Company's subsidiaries, possible acquisitions and the repurchase, redemption or retirement of securities, including the Company's common stock.

16. NET INCOME PER SHARE

The following table sets forth the calculation of basic and diluted net income per share (in thousands except per share data):

	Year Ended December 31,		
	2019	2018	2017
Numerator:			
Net income	$ 314,963	$ 238,334	$ 122,695
Denominator:			
Denominator for basic net income per share — weighted-average outstanding shares	36,310	36,058	33,200
Effect of dilutive securities:			
Stock options, restricted stock awards and restricted stock units	320	390	359
Denominator for diluted net income per share — weighted-average outstanding shares	36,630	36,448	33,559
Net income per share — basic	$ 8.67	$ 6.61	$ 3.70
Net income per share — diluted	$ 8.60	$ 6.54	$ 3.66

The Company’s potentially dilutive securities include outstanding stock options, unvested stock-based awards which include restricted stock awards that vest over a specific service period, restricted stock awards that vest based on achievement of a performance condition, restricted stock awards with a performance and a market condition, restricted stock units and Matching RSUs awarded under the Company's Management Stock Purchase Plan. Shares underlying unvested restricted stock awards that vest based on performance and market conditions that have not been achieved as of the end of the period are not included in the computation of basic or diluted earnings per share. Diluted net income per share considers the impact of potentially dilutive securities except when the inclusion of the potentially dilutive securities would have an anti-dilutive effect.

The following table summarizes the shares underlying the unvested performance-based restricted stock and anti-dilutive securities excluded from the basic and diluted earnings per share calculations (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Performance-based restricted stock awards	60	53	58
Anti-dilutive securities	42	100	126

17. EMPLOYEE BENEFIT PLANS

Stock Incentive Plans

In April 2007, the Company’s Board of Directors adopted the CoStar Group, Inc. 2007 Stock Incentive Plan (as amended, the “2007 Plan”), subject to stockholder approval, which was obtained on June 7, 2007. In April 2016, the Company’s Board of Directors adopted the CoStar Group, Inc. 2016 Stock Incentive Plan (as amended, the “2016 Plan”), subject to stockholder approval, which was obtained on June 9, 2016. All shares of common stock that were authorized for issuance under the 2007 Plan that, as of June 9, 2016, remained available for issuance under the 2007 Plan (excluding shares subject to outstanding awards) were rolled into the 2016 Plan and, as of that date, no shares of common stock were available for new awards under the 2007 Plan. The 2007 Plan continues to govern unexercised and unexpired awards issued under the 2007 Plan prior to June 9, 2016. The 2007 Plan provided for the grant of stock options, restricted stock, restricted stock units and stock appreciation rights to officers, directors and employees of the Company and its subsidiaries. Stock options granted under the 2007 Plan could be incentive or non-qualified, and except in limited circumstances related to a merger or other acquisition, the exercise price for a stock option may not be less than the fair market value of the Company’s common stock on the date of grant. The vesting period of the options, restricted stock and restricted stock unit grants under the 2007 Plan was determined by the Board of Directors or a committee thereof and was generally three to four years. In some cases, vesting of restricted stock awards under the 2007 Plan is subject to performance conditions. Upon the occurrence of a Change of Control, as defined in the 2007 Plan, all outstanding unexercisable options and restricted stock grants under the 2007 Plan immediately become exercisable.

The 2016 Plan provides for the grant of stock options, restricted stock, restricted stock units, and stock appreciation rights to officers, directors and employees of the Company and its subsidiaries. Stock options granted under the 2016 Plan may be non-qualified or may qualify as incentive stock options. Except in limited circumstances related to a merger or other acquisition, the exercise price for an option may not be less than the fair market value of the Company's common stock on the date of grant. The vesting period for each grant of options, restricted stock, restricted stock units and stock appreciation rights under the 2016 Plan is determined by the Board of Directors or a committee thereof and is generally three to four years, subject to minimum vesting periods for restricted stock and restricted stock units of at least one year. In some cases, vesting of awards under the 2016 Plan may be based on performance conditions. The Company has issued and/or reserved the following shares of common stock for issuance under the 2016 Plan: (a) 1,450,000 shares of common stock, plus (b) 815,464 shares of common stock that were authorized for issuance under the 2007 Plan that, as of June 9, 2016, remained available for issuance under the 2007 Plan (not including any Shares that were subject as of such date to outstanding awards under the 2007 Plan), and (c) any shares of common stock subject to outstanding awards under the 2007 Plan as of June 9, 2016, that on or after such date cease for any reason to be subject to such awards (other than by reason of exercise or settlement of the awards to the extent they are exercised for or settled in vested and nonforfeitable shares). Unless terminated sooner, the 2016 Plan will terminate in June 2026, but will continue to govern unexercised and unexpired awards issued under the 2016 Plan prior to that date. Approximately 2 million shares were available for future grant under the 2016 Plan as of December 31, 2019.

At December 31, 2019, there was approximately $82 million of unrecognized compensation cost related to stock incentive plans, net of estimated forfeitures, which the Company expects to recognize over a weighted-average-period of 2.5 years.

Stock Options

Option activity was as follows:

	Number of Shares	Range of Exercise Price	Weighted-Average Exercise Price	Weighted-Average Remaining Contract Life (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2016	440,158	$36.48 - $201.04	$ 132.08		
Granted	95,500	$204.91	$ 204.91		
Exercised	(81,815)	$36.48 - $201.04	$ 83.07		
Outstanding at December 31, 2017	453,843	$36.73 - $204.91	$ 156.24		
Granted	82,500	$342.13	$ 342.13		
Exercised	(177,299)	$36.73 - $204.91	$ 125.16		
Canceled or expired	(14,768)	$182.75 - $342.13	$ 261.20		
Outstanding at December 31, 2018	344,276		$ 212.28		
Granted	48,300	$398.15	$ 398.15		
Exercised	(116,918)	$54.51 - $342.13	$ 159.52		
Outstanding at December 31, 2019	275,658	$54.51 - $398.15	$ 267.23	6.98	$ 91,262
Exercisable at December 31, 2017	278,239	$36.73 - $201.04	$ 130.91		
Exercisable at December 31, 2018	185,405	$54.51 - $204.91	$ 165.31		
Exercisable at December 31, 2019	147,620	$102.16 - $342.13	$ 210.96	5.84	$ 57,180

The aggregate intrinsic value is calculated as the difference between (i) the closing price of the common stock at the end of the period and (ii) the exercise prices of the underlying awards, multiplied by the shares underlying options as of the end of the period that had an exercise price less than the closing price on that date. Options to purchase 116,918, 177,299, and 81,815, shares were exercised during the years ended 2019, 2018 and 2017, respectively. The aggregate intrinsic value of options exercised, determined as of the date of option exercise, was approximately $40 million, $45 million and $13 million for the years ended December 31, 2019, 2018 and 2017, respectively.

The weighted-average grant date fair value of each option granted during the years ended December 31, 2019, 2018 and 2017 using the Black-Scholes option-pricing model was $115.17, $101.02 and $59.06, respectively.

The Company estimated the fair value of each option granted on the date of grant using the Black-Scholes option-pricing model, using the assumptions in the following table:

	Year Ended December 31,		
	2019	2018	2017
Dividend yield	0%	0%	0%
Expected volatility	27%	28%	28%
Risk-free interest rate	2%	3%	2%
Expected life (in years)	5	5	5

The expected dividend yield is determined based on the Company's past cash dividend history and anticipated future cash dividend payments. The Company has never declared or paid any dividends on its common stock and does not anticipate paying any dividends on its common stock during the foreseeable future, but intends to retain any earnings for future growth of its business. Expected volatility is calculated based on historical volatility of the daily closing price of the Company's common stock over a period consistent with the expected life of the options granted. The risk-free interest rate is based on the U.S. Treasury rate with terms similar to the expected life of the options granted. The expected life for the options is determined based on multiple factors, including historical employee behavior patterns of exercising options and post-employment termination behavior as well as expected future employee option exercise patterns.

The following table summarizes information regarding options outstanding at December 31, 2019:

	Options Outstanding			Options Exercisable	
Range of Exercise Price	Number of Shares	Weighted-Average Remaining Contractual Life (in years)	Weighted-Average Exercise Price	Number of Shares	Weighted-Average Exercise Price
$102.16 - $142.45	3,522	3.19	$ 102.16	3,522	$ 102.16
$142.46 - $188.22	36,600	6.19	$ 182.75	36,600	$ 182.75
$188.23 - $197.37	32,200	5.17	$ 193.69	32,200	$ 193.69
$197.38 - $202.98	33,600	4.16	$ 201.04	33,600	$ 201.04
$202.99 - $273.52	52,135	7.16	$ 204.91	23,066	$ 204.91
$273.53 - $370.14	69,301	8.16	$ 342.13	18,632	$ 342.13
$370.15 - $398.15	48,300	9.10	$ 398.15	—	$ —
	275,658		$ 267.23	147,620	$ 210.96

Restricted Stock Awards

The Compensation Committee of the Board of Directors of the Company historically approved grants of restricted common stock to employees and directors of the Company that vest over a specific service period and to executive officers that vest based on the achievement of certain performance conditions, primarily, the achievement of a three-year cumulative revenue goal established at the grant date, and are subject to forfeiture in the event the foregoing performance condition is not met by the end of each respective three-year period. These awards support the Company’s goals of aligning executive incentives with long-term stockholder value and ensuring that executive officers have a continuing stake in the long-term success of the Company.

The vesting of restricted common stock is subject to continuing employment requirements. Certain performance-based restricted common stock awards are also subject to a market condition such that the actual number of shares that vest at the end of the respective three-year period is determined based on the Company’s achievement of performance goals and an established Company specific TSR factor relative to the Russell 1000 Index over the same three-year performance period. At the end of the three-year performance period, if the performance condition is achieved at or above the pre-established threshold, the number of shares earned is further adjusted by a TSR payout percentage, which ranges between 80% and 120%, based on the Company’s TSR performance relative to that of the Russell 1000 Index over the respective three-year period. The Company granted a total of

36,364, 26,160, and 32,160 shares of performance-based restricted common stock during the years ended December 31, 2019, 2018 and 2017, respectively.

The Company estimates the fair value of its equity awards with both a performance and market condition on the date of grant using a Monte-Carlo simulation valuation model. This pricing model uses multiple simulations to evaluate the probability of achieving the market condition to calculate the fair value of the awards. Expense is only recorded for awards that are expected to vest, net of estimated forfeitures. The assumptions used to estimate the fair value of awards with both a performance and a market condition were as follows:

	Year Ended December 31,		
	2019	2018	2017
Dividend yield	0%	0%	0%
Expected volatility	27%	28%	28%
Risk-free interest rate	2%	2%	2%
Expected life (in years)	3	3	3
Weighted-average grant date fair value	$ 398.15	$ 342.13	$ 218.59

The expected dividend yield is determined based on the Company's past cash dividend history and anticipated future cash dividend payments. The Company has never declared or paid any dividends on its common stock and does not anticipate paying any dividends on its common stock during the foreseeable future, but intends to retain any earnings for future growth of its business. Expected volatility is calculated based on historical volatility of the daily closing price of the common stock of the companies within the Russell 1000 Index over a period consistent with the expected life of the performance-based restricted common stock awards with a market condition. The risk-free interest rate is based on the U.S. Treasury rate with terms similar to the expected life of the performance-based restricted common stock awards with a market condition. The expected life is consistent with the performance measurement period of the performance-based restricted common stock awards with a market condition.

As of December 31, 2019, the Company determined that it was probable that the performance goals associated with restricted stock awards with performance and market conditions granted during 2019, 2018 and 2017 would be met by their forfeiture dates. The Company recorded a total of approximately $8 million, $5 million and $5 million of stock-based compensation expense related to restricted stock awards with a market condition for the years ended December 31, 2019, 2018 and 2017, respectively. As of December 31, 2019, the Company expects to record an aggregate stock-based compensation expense of approximately $11 million for restricted stock awards with a market condition over the periods 2020, 2021 and 2022.

The following table presents unvested restricted stock awards activity for the year ended December 31, 2019:

	Restricted Stock Awards — without Market Condition		Restricted Stock Awards — with Market Condition	
	Number of Shares	Weighted-Average Grant Date Fair Value per Share	Number of Shares	Weighted-Average Grant Date Fair Value per Share
Unvested restricted stock awards at December 31, 2018	304,161	$ 272.95	76,320	$ 193.44
Granted	115,722	$ 456.51	36,000	$ 429.63
Vested	(134,361)	$ 241.65	(23,040)	$ 184.97
Canceled	(18,303)	$ 315.39	—	$ —
Unvested restricted stock awards at December 31, 2019	267,219	$ 365.27	89,280	$ 290.87

Restricted Stock Units

The following table presents unvested restricted stock units activity for the year ended December 31, 2019:

	Number of Units	Weighted-Average Grant Date Fair Value per Share
Unvested restricted stock units at December 31, 2018	852	$ 228.86
Granted	413	$ 459.41
Vested	(411)	$ 221.08
Canceled	—	$ —
Unvested restricted stock units at December 31, 2019	854	$ 344.10

Management Stock Purchase Plan

The Board of Directors adopted the Company’s Management Stock Purchase Plan in December 2017 with the intent of providing selected key employees of the Company and its subsidiaries, including the Company's executive officers, the opportunity to defer a portion of their cash incentive compensation and to align management and stockholder interests through awards of Deferred Stock Units (“DSUs”) under the MSPP and awards of Matching RSUs issued under the Company 2016 Plan. Under this plan, participants are permitted to elect to defer up to 100% of their annual incentive bonus or commissions earned during the year by submitting an irrevocable election in accordance with Section 409A of the Internal Revenue Code, as amended. On the date the incentive bonus or commission would otherwise be paid in cash (typically during the following calendar year), the Company awards the participant DSUs representing the number of shares of common stock with an aggregate fair market value on that date equal to the amount of compensation elected to be deferred under the MSPP. On the same date the DSUs are awarded, the participant receives a grant of Matching RSUs covering the number of shares of common stock equal up to 100% of the DSUs granted. The expense related to the DSUs is recognized on a straight-line basis during the period that the related incentive bonus or commission is earned. The stock-based compensation expense for 7,441 DSUs awarded during 2019 was fully recognized as of December 31, 2018. The expense related to the Matching RSUs is recognized over the four years vesting period following the grant date.

The following tables presents the RSU activity for the year ended December 31, 2019:

	Number of Matching RSU Shares	Weighted-Average Grant Date Fair Value per Share
Unvested MSPP restricted stock units at December 31, 2018	—	$ —
Granted	7,441	469.13
Vested	—	—
Canceled	(275)	469.13
Unvested MSPP restricted stock units at December 31, 2019	7,166	$ 469.13

Employee 401(k) Plan

The Company maintains a 401(k) Plan (the “401(k)”) as a defined contribution retirement plan for all eligible employees. The 401(k) provides for tax-deferred contributions of employees’ salaries, limited to a maximum annual amount as established by the IRS. In addition to the traditional 401(k), effective January 1, 2015, eligible employees have the option of making an after-tax contribution to a Roth 401(k) plan or a combination of both. In 2019, 2018 and 2017, the Company matched 100% of employee contributions up to a maximum of 4% of total compensation. Amounts contributed to the 401(k) by the Company to match employee contributions for the years ended December 31, 2019, 2018 and 2017 were approximately $12 million, $12 million and $10 million, respectively. The Company had no administrative expenses in connection with the 401(k) plan for the years ended December 31, 2019, 2018 and 2017, respectively.

Employee Pension Plan

The Company maintains a Group Personal Pension Plan (the “Plan”) for all eligible employees in the Company’s U.K. offices. The Plan is a defined contribution plan. Employees are eligible to contribute a portion of their salaries, subject to a maximum annual amount as established by Her Majesty's Revenue and Customs. In 2019, 2018 and 2017, the Company's matching contribution was based on the percentage contributed by the employee, up to a maximum of 6% of total compensation. Amounts contributed to the Plan by the Company to match employee contributions for the years ended December 31, 2019, 2018 and 2017, were approximately $0.6 million, $0.5 million and $0.4 million, respectively.

Registered Retirement Savings Plan

As of January 1, 2015, the Company introduced a registered retirement savings plan (“RRSP”) for all eligible employees in the Company’s Canadian offices. In 2017, 2016 and 2015, the Company matched 100% of employee contributions up to a maximum of 4% of total compensation. Amounts contributed to the RRSP by the Company to match employee contributions for the years ended December 31, 2019, 2018 and 2017 were approximately $70 thousand, $58 thousand and $43 thousand, respectively.

Employee Stock Purchase Plan

As of August 1, 2006, the Company introduced an Employee Stock Purchase Plan (“ESPP”), pursuant to which eligible employees participating in the plan authorize the Company to withhold specified amounts from the employees’ compensation and use the withheld amounts to purchase shares of the Company's common stock at 90% of the market price. Participating employees are able to purchase common stock under this plan during each offering period. An offering period begins the second Saturday before each of the Company’s regular pay dates and ends on each of the Company’s regular pay dates. On June 3, 2015, the Company’s stockholders approved an amendment to the ESPP to increase the number of shares available for purchase under the ESPP by 100,000 shares. On September 14, 2015, the Company registered the issuance of these additional shares under the ESPP pursuant to the registration statement filed September 14, 2015. There were 51,584 and 65,174 shares available for purchase under the ESPP as of December 31, 2019 and 2018, respectively, and approximately 13,590 and 14,848 shares of the Company’s common stock were purchased under the ESPP during 2019 and 2018, respectively.

18. QUARTERLY RESULTS OF OPERATIONS

The following is a summary of the unaudited quarterly results of operations for the years ended December 31, 2019 and 2018. Information about prior period acquisitions and the adoption of recent accounting pronouncements that may affect the comparability of the quarterly financial information presented below are included in Note 2 and Note 4.

	2019			
	Mar. 31	Jun. 30	Sep. 30	Dec. 31
Revenues	$ 328,425	$ 343,760	$ 352,808	$ 374,726
Cost of revenues	71,153	71,918	71,172	74,996
Gross profit	257,272	271,842	281,636	299,730
Operating expenses	163,780	197,042	187,367	198,744
Income from operations	93,492	74,800	94,269	100,986
Interest and other income	4,945	5,913	5,358	13,801
Interest and other expense	(732)	(697)	(704)	(482)
Income before income taxes	97,705	80,016	98,923	114,305
Income tax expense	12,536	16,768	20,304	26,378
Net income	$ 85,169	$ 63,248	$ 78,619	$ 87,927
Net income per share — basic	$ 2.35	$ 1.74	$ 2.16	$ 2.42
Net income per share — diluted	$ 2.33	$ 1.73	$ 2.15	$ 2.39

	2018			
	Mar. 31	Jun. 30	Sep. 30	Dec. 31
Revenues	$ 273,718	$ 297,018	$ 305,525	$ 315,571
Cost of revenues	62,477	67,136	72,072	68,248
Gross profit	211,241	229,882	233,453	247,323
Operating expenses	157,796	186,108	162,765	141,666
Income from operations	53,445	43,774	70,688	105,657
Interest and other income	2,987	2,652	3,035	4,607
Interest and other expense	(690)	(728)	(717)	(695)
Income before income taxes	55,742	45,698	73,006	109,569
Income tax expense	3,511	1,863	14,247	26,060
Net income	$ 52,231	$ 43,835	$ 58,759	$ 83,509
Net income per share — basic	$ 1.46	$ 1.22	$ 1.63	$ 2.31
Net income per share — diluted	$ 1.44	$ 1.20	$ 1.61	$ 2.29

19. SUBSEQUENT EVENTS

On February 11, 2020, CSGP Holdings, LLC (“CSGP”), an indirect wholly owned subsidiary of the Company, RentPath Holdings, Inc. (“RentPath”), certain direct or indirect wholly-owned subsidiaries of RentPath (together with RentPath, the “Sellers”), and, solely for the purposes set forth therein, the Company, entered into an asset purchase agreement (the “Asset Purchase Agreement”) dated as of February 12, 2020. Pursuant to the Asset Purchase Agreement, and subject to the terms and conditions set forth therein, CSGP has agreed to acquire for $588 million in cash all of the equity interests of RentPath, as reorganized following an internal restructuring of the Sellers (“Reorganized RentPath") pursuant to and under the joint chapter 11 plan of reorganization of the Sellers and certain of their affiliates to be filed in the U.S. Bankruptcy Court for the District of Delaware. Under the terms of the Asset Purchase Agreement, the Company has agreed to guarantee the full and timely performance of CSGP’s obligations under the Asset Purchase Agreement. The completion of the transaction is subject to customary conditions, including the expiration or termination of any applicable waiting period under applicable antitrust laws and bankruptcy court approvals. The purchase agreement requires the Company to pay a $59 million fee in the event the purchase agreement is terminated under specified circumstances in which certain antitrust approvals are not obtained, or a governmental order related to antitrust or competition matters prohibits the consummation of the transaction. RentPath is a provider of digital marketing solutions for rental properties through a network of Internet listing websites, including Rent.com, ApartmentsGuide.com, Rentals.com and LiveLovely.com.

Exhibit 4.2

DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

CoStar Group, Inc. ("CoStar," "we," "us" or "our") has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"): our Common Stock, par value $0.01 per share (our "common stock").

DESCRIPTION OF COMMON STOCK

The following summary description sets forth some of the general terms and provisions of our common stock. Because this is a summary description, it does not contain all of the information that may be important to you. For a more detailed description of our common stock, you should refer to the provisions of our third amended and restated certificate of incorporation(our "Certificate of Incorporation") and our third amended and restated By-laws (our "By-laws"), each of which are filed as exhibits to the Annual Report on Form 10-K to which this description is an exhibit.

General

Under our Certificate of Incorporation, we are authorized to issue up to sixty million (60,000,000) shares of our common stock and two million (2,000,000) shares of preferred stock, par value $.01 per share (our "preferred stock"). The shares of our common stock currently outstanding are fully paid and non-assessable. No shares of preferred stock are currently outstanding.

Voting Rights

Holders of shares of common stock have one vote per share in all elections of directors and on all other matters submitted to a vote of stockholders of CoStar. Except as otherwise required by law, our Certificate of Incorporation or our By-laws, matters submitted to a vote of stockholders (other than director elections) will be decided by the affirmative vote of a majority of the shares of our common stock present or represented by proxy and entitled to vote on the matter. Holders of shares of our common stock do not have cumulative voting rights.

Directors will be elected if the number of votes properly cast "for" a nominee's election exceeds the number of votes properly cast "against" such nominee's election, unless the number of nominees exceeds the number of directors to be elected, in which case the directors shall be elected by the vote of a plurality of the votes cast. There is no provision for cumulative voting with regard to the election of directors.

Dividend Rights

Subject to the preferences applicable to any then-outstanding shares of preferred stock, the holders of common stock are entitled to receive dividends, if any, as and when declared, from time to time, by our board of directors out of funds legally available therefor.

Liquidation, Dissolution or Similar Rights

Upon dissolution, after satisfaction of the claims of creditors and the payment to any holders of preferred stock of the full preferential amounts to which such holders may be entitled, the remaining assets of CoStar would be distributed to the holders of the common stock ratably in proportion to the number of shares of common stock held by them.

Other Rights

Our common stock is not redeemable, is not subject to redemption or sinking fund provisions, does not have any conversion rights and is not subject to call. Holders of shares of common stock do not have preemptive rights to acquire newly issued shares.

Anti-Takeover Effects of Provisions of our Certificate of Incorporation, Bylaws, and Delaware Law

Various provisions contained in our Certificate of Incorporation, our By-laws, and Delaware law could delay or discourage some transactions involving an actual or potential change in control of CoStar or its management.

For example, provisions in our Certificate of Incorporation and our By-laws:

- authorize our board of directors to establish one or more series of undesignated preferred stock, the terms of which can be determined by our board of directors at the time of issuance;
- do not authorize cumulative voting;
- authorize our board of directors to alter, amend or repeal any bylaw;
- provide that, except as otherwise provided in our Certificate of Incorporation or by Delaware law, special meetings of our stockholders may be called only by our board of directors in a resolution approved by a majority of the board of directors or by the Chairman of our board of directors or the President of CoStar;
- provide that our stockholders may take action only at a duly called meeting and not by written consent;
- in connection with stockholder meetings, provide an advanced written notice procedure with respect to stockholder nominations for directors and bringing other business; and
- provide that our directors may fill any vacancies on our board of directors, including newly created board seats resulting from an increase in the authorized number of directors and vacancies resulting from death, resignation, or other cause.

In addition, we are subject to Section 203 of the Delaware General Corporation Law, which regulates, subject to some exceptions, acquisitions of publicly held Delaware corporations. In general, Section 203 prohibits us from engaging in a “business combination” with an “interested stockholder” for a period of three years following the date the person becomes an interested stockholder, unless:

- our board of directors approved the business combination or the transaction in which the person became an interested stockholder prior to the date the person attained this status;
- upon consummation of the transaction that resulted in the person becoming an interested stockholder, the person owned at least 85% of our voting stock outstanding at the time the transaction commenced, excluding shares owned by persons who are directors and also officers and issued under employee stock plans under which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or subsequent to the date the person became an interested stockholder, our board of directors approved the business combination and the stockholders other than the interested stockholder authorized the transaction at an annual or special meeting of stockholders by the affirmative vote of at least two-thirds of the outstanding stock not owned by the interested stockholder.

Section 203 defines a “business combination” to include:

- any merger or consolidation involving us and the interested stockholder;
- any sale, transfer, pledge or other disposition involving the interested stockholder of 10% or more of our assets;
- in general, any transaction that results in the issuance or transfer by us of any of our stock to the interested stockholder;
- any transaction involving us that has the effect of increasing the proportionate share of our stock owned by the interested stockholders; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges, or other financial benefits provided by or through us.

In general, Section 203 defines an “interested stockholder” as any person who, together with the person’s affiliates and associates, owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of a corporation’s voting stock.

EXHIBIT 21.1

SUBSIDIARIES OF THE REGISTRANT

a) CoStar Realty Information, Inc., a Delaware corporation

b) CoStar Limited, a U.K. company

c) CoStar UK Limited, a U.K. company

d) Grecam S.A.S., a France Societée par Actions Simplifiée

e) CoStar Portfolio Strategy, LLC, a Delaware limited liability company

f) Property and Portfolio Research Ltd., a U.K. company

g) CoStar Realty Information Canada Ltd., a British Columbia company

h) CoStar International LLC., a Delaware limited liability company

i) CoStar Field Research, LLC, a Delaware limited liability company

j) Realla Ltd., a U.K. company

k) CoStar Europe Ltd., a U.K. company

l) CoStar España, S.L., a Spanish company

m) Thomas Daily GmbH, a German company

n) Off Campus Partners, a Delaware limited liability company

o) STR, LLC, a Delaware limited liability company

p) STR Global Ltd., a UK company

q) The Screening Pros, LLC, a California limited liability company

r) STR Global Singapore Private Limited

s) STR Germany GmbH

t) STR Benchmarking Solutions (Beijing) Co., Ltd.

u) Cozy Services, LLC., a Delaware limited liability company

v) Cozy Insurance Services, LLC, a Florida limited liability company

w) STR Global Iberica, S.L.

x) STR Columbia SAS

y) LJ Research Ltd.

z) STR Australia Pty Ltd.

EXHIBIT 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement Number 333-135709 on Form S-8 pertaining to the CoStar Group, Inc. Employee Stock Purchase Plan,

(2) Registration Statement Number 333-206929 on Form S-8 pertaining to the CoStar Group, Inc. Amended and Restated Employee Stock Purchase Plan,

(3) Registration Statement Number 333-143968 on Form S-8 pertaining to the CoStar Group, Inc. 2007 Stock Incentive Plan, as amended,

(4) Registration Statement Number 333-167424 on Form S-8 pertaining to the CoStar Group, Inc. 2007 Stock Incentive Plan, as amended,

(5) Registration Statement Number 333-182377 on Form S-8 pertaining to the CoStar Group, Inc. 2007 Stock Incentive Plan, as amended,

(6) Registration Statement Number 333-212278 on Form S-8 pertaining to the CoStar Group, Inc. 2016 Stock Incentive Plan,

(7) Registration Statement Number 333-220607 on Form S-3 of CoStar Group, Inc. and

(8) Registration Statement Number 333-223230 on Form S-8 pertaining to the CoStar Group, Inc. Management Stock Purchase Plan

of our reports dated February 26, 2020, with respect to the consolidated financial statements and schedule of CoStar Group, Inc. and the effectiveness of internal control over financial reporting of CoStar Group, Inc., included in this Annual Report (Form 10-K) of CoStar Group, Inc. for the year ended December 31, 2019.

/s/ Ernst & Young LLP

Tysons, Virginia

February 26, 2020

EXHIBIT 31.1

CERTIFICATION

I, Andrew C. Florance, certify that:

1. I have reviewed this annual report on Form 10-K of CoStar Group, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: 2/26/2020

By: /s/ Andrew C. Florance
Andrew C. Florance
President and Chief Executive Officer
(Principal Executive Officer and Duly Authorized Officer)

EXHIBIT 31.2

CERTIFICATION

I, Scott T. Wheeler certify that:

1. I have reviewed this annual report on Form 10-K of CoStar Group, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: 2/26/2020

By: /s/ Scott T. Wheeler
Scott T. Wheeler
Chief Financial Officer
(Principal Financial and Accounting Officer and Duly Authorized Officer)

EXHIBIT 32.1

CoStar Group, Inc.
1331 L Street, NW
Washington, DC 20005

February 26, 2020

Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549

Re: **Certification Of Principal Executive Officer Pursuant To 18 U.S.C. Sec. 1350**

Dear Ladies and Gentlemen:

In connection with the accompanying Annual Report on Form 10-K of CoStar Group, Inc., for the year ended December 31, 2019, I, Andrew C. Florance, Chief Executive Officer of CoStar Group, Inc., hereby certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1) such Annual Report on Form 10-K of CoStar Group, Inc., for the year ended December 31, 2019, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o (d)); and

2) the information contained in such Annual Report on Form 10-K of CoStar Group, Inc., for the year ended December 31, 2019, fairly presents, in all material respects, the financial condition and results of operations of CoStar Group, Inc.

By: /s/ Andrew C. Florance
Andrew C. Florance
President and Chief Executive Officer
(Principal Executive Officer and Duly Authorized Officer)

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to CoStar Group, Inc. and will be retained by CoStar Group, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

In accordance with Item 601 of Regulation S-K, this certification is being “furnished” as Exhibit 32.1 to CoStar Group, Inc.’s annual report and shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934 (the “Exchange Act”) or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, except as expressly set forth by specific reference in such a filing.

EXHIBIT 32.2

CoStar Group, Inc.
1331 L Street, NW
Washington, DC 20005

February 26, 2020

Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549

Re: **Certification Of Principal Financial Officer Pursuant To 18 U.S.C. Sec. 1350**

Dear Ladies and Gentlemen:

In connection with the accompanying Annual Report on Form 10-K of CoStar Group, Inc., for the year ended December 31, 2019, I, Scott T. Wheeler, Chief Financial Officer of CoStar Group, Inc., hereby certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1) such Annual Report on Form 10-K of CoStar Group, Inc., for the year ended December 31, 2019, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o (d)); and

2) the information contained in such Annual Report on Form 10-K of CoStar Group, Inc., for the year ended December 31, 2019, fairly presents, in all material respects, the financial condition and results of operations of CoStar Group, Inc.

By: /s/ Scott T. Wheeler
Scott T. Wheeler
Chief Financial Officer
(Principal Financial and Accounting Officer and Duly Authorized Officer)

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to CoStar Group, Inc. and will be retained by CoStar Group, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

In accordance with Item 601 of Regulation S-K, this certification is being “furnished” as Exhibit 32.2 to CoStar Group, Inc.’s annual report and shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934 (the “Exchange Act”) or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, except as expressly set forth by specific reference in such a filing.