COSTAR GROUP INC Form 10-K February 28, 2019

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, 2018

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 Name of Each Exchange on Which Registered Common Stock, \$.01 par value 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 "

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

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 registrant was required to submit such files.) Yes x No ...

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or 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 Securities Exchange Act of 1934.

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Large accelerated filer x Accelerated filer "
Non-accelerated filer "
Smaller reporting company "
Emerging growth company "
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If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. "

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

Based on the closing price of the common stock on June 29, 2018 on the Nasdaq Global Select Market, the aggregate market value of registrant's common stock held by non-affiliates of the registrant as of June 29, 2018 was approximately \$15 billion.

As of February 22, 2019, there were 36,451,829 shares of the registrant's common stock 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, 2018, are incorporated by reference into Part III of this Report.

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#### 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 created and compiled our 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 includes the U.K., Spain, Germany and France.

#### 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 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 over 100 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 commercial real estate information content to our U.S. customers 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.

We have also extended our offering of comprehensive commercial real estate information geographically to include the U.K., Canada, Spain, Germany and France, through acquisitions and internal growth and development. Most recently, on October 12, 2018, we acquired 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. Information about CoStar's revenues, long-lived assets and total assets derived from and located in, foreign countries is included in Notes 2, 3 and 13 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 13 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<sup>TM</sup>, BizBuySell® and LandsofAmerica<sup>TM</sup>. Our subscription-based services consist primarily of information, analytics and online marketplace services offered over the Internet

to the commercial real estate industry and related professionals. 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 Professional®, CoStar COMPS Professional® and CoStar Tenant®, accessible via the Internet and through our mobile applications, CoStar Mobile App and CoStar Go. CoStar Suite is our primary service offering in our North America and International operating segments.

Our LoopNet subscription-based, online marketplace enables commercial property owners, landlords, and brokers 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 LoopNet extensively to search for available property listings that meet their criteria.

Apartments.com<sup>TM</sup> is part of our network of apartment marketing sites, which also includes ApartmentFinder.com<sup>TM</sup>, ForRent.com®, ApartmentHomeLiving.com<sup>TM</sup>, WestsideRentals.com®, AFTER55.com®, CorporateHousing.com<sup>TM</sup>, ForRentUniversity.com® and Apartamentos.com<sup>TM</sup>, our apartment-listing site offered exclusively in Spanish. 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. Our apartment marketing network draws on and leverages CoStar's multifamily database, which contains detailed information on apartment properties. Our apartment marketing sites are 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 provide 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, the sites also offer innovative search tools such as the Polygon<sup>TM</sup> Search tool, which allows renters to specifically define the area in which they want to find an apartment. Apartments.com and Apartamentos.com also offer Plan Commute tools, which allow renters to search property listings that meet their transportation needs. 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 February 21, 2018. We also offer complementary services to the apartment industry, including tenant screening services, rental applications and payments processing and lease renewals. On November 8, 2018, we acquired Cozy Services, Ltd. ("Cozy"), a leading 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.

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

We also provide real estate and lease management solutions, including lease administration and abstraction services, through our CoStar Real Estate Manager service offerings, as well as, market research, consulting and analysis, portfolio and debt analysis, management and reporting capabilities through our CoStar Investment Analysis and CoStar Risk Analytics service offerings. We have created and are continually improving our standardized platform of information, analytics and online marketplaces where members of the commercial real estate and related business community can continuously interact and facilitate transactions by efficiently accessing and exchanging accurate and standardized commercial real estate information.

Our services are typically distributed to our clients under subscription-based license agreements that renew automatically, a majority of which have a term of 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.

#### **Expansion and Growth**

#### Acquisitions

We have continually expanded the geographical coverage of our existing information services and developed new information, analytics and online marketplace services. In addition to organic growth, we have grown our business through strategic acquisitions. On February 21, 2018, we completed the acquisition of ForRent, a division of Dominion Enterprises. ForRent's primary service is digital advertising through a network of four multifamily websites, which includes ForRent.com, AFTER55.com, CorporateHousing.com and ForRentUniversity.com. On October 12, 2018, we acquired Realla Ltd., 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. On November 8, 2018, we acquired Cozy, a leading provider in the U.S. 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.

## 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 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.

In 2018, we completed the integration of ForRent, including the ForRent sales team and the services offered by ForRent and have worked to maintain ForRent's relationships with its customers that existed prior to the acquisition. ForRent.com is expected to remain a distinct, complementary brand to Apartments.com, giving property managers and owners more exposure for their listings.

We are also continuing to develop new, and improve existing, online rental property service offerings for the apartments industry. We plan to integrate the Cozy suite technology into the Aparments.com platform, creating an integrated online rental solution. In particular, we expect to implement the ability for renters to apply for leases online, for landlords to run tenant credit and background checks online and, eventually, for landlords and tenants to generate and enter into leases and to make and process payments online.

We are expanding the geographic reach of our services. We plan to integrate Realla with our CoStar UK operations, including development of a single point of data entry to allow 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.

We believe that our integration efforts and continued investments in our services, including 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. We plan to continue to invest in, evaluate and strategically position our sales force as the Company continues to develop and grow. We also continue to invest in our research operations to support continued growth of our information and analytics offerings to meet the growing content needs of our clients. While we believe investments we make in our business create a platform for growth, those investments may reduce our profitability and adversely affect our financial position. We introduced new enhancements on the CoStar homepage, including a Listing Manager feature that we believe will increase the quantity and quality of the listing information available by enabling brokers and other industry participants to load information directly into the integrated system.

Over time, we expect this feature will reduce the time and costs associated with researching and maintaining our comprehensive database of commercial real estate information.

#### **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 operating in the current economic environment. 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 Government agencies

Property owners Mortgage-backed security issuers

Property managers Appraisers

Design and construction professionals Pension fund managers

Real estate developers Reporters
Real estate investment trust managers Tenant vendors

Investment bankersBuilding services vendorsCommercial bankersCommunications providersMortgage bankersInsurance companies' managers

Mortgage brokers Institutional advisors

Retailers 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 effort 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 and 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 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. 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.

## CoStar's Comprehensive Database

CoStar has spent more than 30 years building and acquiring a database 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 apartment 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 direct mail. 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 to our researchers.

CoStar's field research effort includes physical inspection of properties in order to research new availabilities, find additional property inventory, photograph properties, collect tenant information, and verify existing information. CoStar's field research effort includes creating 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 across the U.S., Canada, the U.K., Spain and Germany. 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. We also utilize 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. 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, encrypted data fields, off-site storage 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 expect to continue to enhance our existing information, analytics and online marketplaces 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:

Information and analytics

#### CoStar Suite®

CoStar Suite® is our platform of service offerings consisting of CoStar Property Professional®, CoStar COMPS Professional® and CoStar Tenant® and is accessible via the Internet and through our mobile applications, CoStar Mobile App and CoStar Go.

CoStar Property Professional® CoStar Property Professional, or "CoStar Property," is the Company's flagship service. It provides subscribers a comprehensive inventory of office, industrial, retail and multifamily properties and land in markets throughout the U.S., the U.K. and parts of Canada, including for-lease and for-sale listings, historical data,

building photographs, 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 capabilities as well as a user controlled, password protected extranet (or electronic "file cabinet") where brokers may share space surveys and transaction-related documents online, in real time, with team members. When used together with CoStar Connect®, CoStar Property enables subscribers to share space surveys and transaction-related documents with their clients, accessed through their corporate website. CoStar Property, along with all of CoStar's other core information, analytics and online marketplaces, is delivered to desktop, mobile and other Internet-connected devices.

CoStar COMPS Professional® CoStar COMPS Professional, or "CoStar COMPS," provides comprehensive coverage of comparable commercial real estate sales information in the U.S., the U.K. and parts of Canada. It is the industry's most comprehensive database of comparable 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 in three formats – plotted on a map, aerial image or in a table.

CoStar Tenant® 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 the U.S., the U.K. and parts of Canada. 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® CoStar Lease Comps, included as part of CoStar Suite® services, provides subscribers an integrated solution that captures, manages and maintains their lease data together with data from CoStar researched lease comparables. CoStar Lease Comps also provides the ability to analyze this combined lease dataset from an aggregate analytic perspective.

CoStar Lease Analysis® 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. 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.

CoStar Advertising® CoStar Advertising offers property owners and brokers a highly targeted and cost effective way to market a space for lease or a property for sale directly to CoStar subscribers looking for that type of space through interactive advertising. Our advertising model is based on varying levels of exposure, enabling the advertiser to target as narrowly or broadly as its budget permits. With the CoStar Advertising program, when the advertiser's listings appear in a results set, they receive priority positioning and are enhanced to stand out. The advertiser can also purchase exposure in additional submarkets, or the entire market area so that their ad will appear even when the listing would not be returned in a results set.

CoStar Private Sale Network® CoStar Private Sale Network provides clients with custom-designed and branded websites to market their listings directly to investors. CoStar Private Sale Network allows investors to customize a commercial real estate website and build and send email communications to announce listings, calls for offers and bid deadlines.

CoStar Mobile App and CoStar Go CoStar Mobile App is an iOS and Android application that provides CoStar subscribers mobile access to their CoStar subscription. CoStar Go is an iPad app that provides CoStar Suite subscribers a single, location-centric mobile interface that allows users to access and display comprehensive information on millions of properties and gain instant access to analytic data and demographic information from the field.

#### Information services

CoStar Real Estate Manager® 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® COMPASS CoStar Risk Analytics COMPASS 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.

CoStar Brokerage Applications® CoStar Brokerage Applications provides commercial real estate brokerage firms the latest tools to effectively manage and optimize business operations, marketing, and research efforts. This Enterprise Resource Planning platform allows users to manage their transactions, broker commissions, and customer information, and to track critical dates as well as employee or organization-wide results and current and prospective projects.

CoStar Investment Analysis® Request CoStar Investment Analysis Request is the first business intelligence software solution built specifically for managing commercial real estate investments. CoStar Investment Analysis Request helps users eliminate some of the difficulties of consolidating real estate investment data from disparate sources and facilitates standardization of information presentation and reporting across an organization. CoStar Investment Analysis Request also provides a platform for users to develop business intelligence and reporting capabilities.

CoStar Investment Analysis® Portfolio Maximizer CoStar Investment Analysis Portfolio Maximizer is an industry leading real estate portfolio management software solution. CoStar Investment Analysis Portfolio Maximizer allows users to model partnership structures, calculate waterfall distributions and fees, model and analyze debt obligations and create multiple "what if" scenarios for alternative investment decisions.

## Online marketplaces

#### Multifamily

Apartments.com<sup>TM</sup> 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.

ApartmentFinder.com<sup>TM</sup> ApartmentFinder.com, part of our network of apartment marketing sites, provides lead generation, advertising and Internet marketing solutions to property managers and owners through its main service, ApartmentFinder.com.

ForRent.com® ForRent.com, part of our network of apartment marketing sites, provides digital advertising through a network of four multifamily websites - which includes ForRent.com, AFTER55.com, CorporateHousing.com and ForRentUniversity.com

ApartmentHomeLiving.com<sup>TM</sup> ApartmentHomeLiving.com, part of our network of apartment marketing sites, provides renters with another national online apartment rentals resource that showcases apartments for rent with official prices, pictures, floor plans and detailed information on each apartment.

Apartamentos.com<sup>TM</sup> Apartamentos.com, part of our network of apartment marketing sites, provides Spanish speaking renters with a national online apartment rentals resource offered exclusively in Spanish, with the same primary features found on Apartments.com.

WestsideRentals.com® WestsideRentals.com, part of our network of apartment marketing sites, specializes in Southern California real estate rentals.

Cozy.co Cozy provides online rental solutions to both landlords and tenants, including property listings, rent estimates, rental applications, tenant screening, online rent payments, and expense tracking.

#### 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 Power Listings LoopNet Power Listings 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, as well as 200+ online newspaper websites including the Wall Street Journal. LoopNet Power Listings is available for a quarterly or annual subscription.

LoopLink® LoopLink is an online real estate marketing and database services suite that enables commercial real estate firms to showcase their available properties both on the LoopNet marketplace and on the brokerage firm's own website using hosted search software. Within LoopNet, each LoopLink listing is branded with the client's logo and is hyperlinked to the client's website. Additionally, the LoopLink service provides customizable, branded property search and results screens that can be integrated into the client's website. The LoopNet import service offers the opportunity to simplify the process of submitting listings to LoopNet

from the client's internal databases, and features advanced data matching and data integrity rules and file conversion capabilities. LoopNet charges a monthly subscription fee to commercial real estate firms for the LoopLink service. Key features of LoopLink include comprehensive reporting and listing administration tools, property mapping for geographic and feasibility analysis, thumbnail photos and expanded property descriptions in search results.

Listing Manager<sup>TM</sup> Listing Manager is an online tool that allows users to add and manage their listings on CoStar and LoopNet, all in one place. Among other features, LoopNet users can monitor listing performance, access lead and prospect reports and upgrade exposure for listings on LoopNet.

Realla Realla is a commercial property listings and data management platform in the U.K., including a free-to-list search engine for commercial property listings.

LandsofAmerica<sup>TM</sup>, LandAndFarm<sup>TM</sup>, and LandWatch<sup>®</sup> 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 and LandAndFarm.com websites are also accessible via our Land.com domain.

BizBuySell® and BizQuest® BizBuySell.com and BizQuest.com are leading online marketplaces for operating businesses 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 and BizQuest 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, 2016, 2017 and 2018, no single client accounted for more than 5% of our revenues.

#### Sales and Marketing

Our sales teams are primarily located in field sales offices throughout the U.S. and in offices outside of the U.S., including, among others, Canada, London, England; Madrid, Spain; and Freiburg, Germany. Our inside sales teams are primarily located in our Washington, DC office. These teams prospect for new clients and perform product and service demonstrations exclusively by telephone and over the Internet to support the direct sales force.

Our local offices typically serve as the platform for our in-market sales, customer support and field research operations for their respective regions. The sales force is responsible for selling to new prospects, training new and existing clients, providing ongoing customer support, renewing existing client contracts and identifying cross-selling opportunities. In addition, the sales force has primary front line responsibility for customer care. Our customer service and support staff is charged with ensuring high client satisfaction by providing ongoing customer support. In 2016, we formed a customer relationship team consisting of client relationship managers in the sales organization, to drive even greater usage of our products and services. The client relationship managers are responsible for training existing users, sharing market specific research with clients, ensuring accurate and timely listings and ensuring client driven product enhancement ideas are shared with our product development team.

Our sales strategy is to aggressively attract new clients, while providing ongoing incentives for existing clients to subscribe to additional products and services in order to achieve high renewal rates. We actively manage client

accounts in order to retain clients by providing frequent service demonstrations as well as company-client contact and communication. In January 2018, we launched a two-week, 30-city road show to showcase CoStar's technologies to customers and prospective users. The presentations focused on how technological change is impacting the commercial real estate industry, including presentations on tools such as 3D cameras, infrared drones and augmented reality. We place a premium on training new and existing client personnel on the use of our services so as to promote maximum client utilization and satisfaction with our services. In the fall of 2018, we launched a customer service initiative across the U.K. to ensure client satisfaction with our product and to train customers on new features and services. Our sales strategy also involves entering into multi-year, multi-market license agreements with our larger clients.

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, 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.

Our primary marketing methods include: service demonstrations; face-to-face networking; web-based marketing; direct marketing; communication via our corporate website and news services; participation in trade show and industry events; Company-sponsored events; print advertising in trade magazines and other business publications; client referrals; and CoStar Today<sup>TM</sup>, LoopNews<sup>TM</sup> and other company newsletters distributed via email to our clients and prospects. In 2017, we integrated the CoStar and LoopNet databases in order 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 Listing Manager tool, and to subsequently 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 2018, over one hundred thousand commercial real estate professionals and other users successfully made millions of updates to their listings using Listing Manager.

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, social media, public relations, out-of-home and paid search marketing, all of which are reinforced with Search Engine Marketing efforts. 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.

Web-based marketing and direct marketing are effective means for us to find prospective clients. Our web-based 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, email and telemarketing, 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 advertising to build 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, owner/investors and retail and financial services institutions, and attend and/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 2018, we hired veteran journalists to guide our news efforts and expanded our team to deliver more robust coverage. We launched a daily newsletter for U.S. subscribers and delivered curated content to our largest markets. We plan to offer even more personalized information in 2019. In 2018, we also upgraded our technology to make our service more relevant for subscribers, giving us the capability to deliver specific news based on their individual preferences.

We believe the ability to customize and personalize news for the user's specific interests should make 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 will also provide 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.

Our sales and marketing efforts have focused and will continue to focus on cross-selling and marketing our services. We continue to develop and cross-sell the services offered by our Apartments.com network of rental websites and the other services we offer, including, but not limited to CoStar Suite. We will also continue to focus on identifying opportunities for customers to benefit from CoStar's Real Estate Manager offering.

#### Competition

The market for information, analytics and online marketplaces generally is competitive and rapidly changing. 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;

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;

elient 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, 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.;

Internet listing services featuring apartments for rent, such as 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, Adobo, RadPad, RentJungle and RentCafe.com;

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, Lucemex and AMT;

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;

dicense 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 Property®, CoStar COMPS Professional®, CoStar Tenant®, CoStar Go, CoStar Lease Analysis®, CoStar Showcase® and LoopNet®, 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, two patents in Canada, which expire in 2021, covering, among other things, certain features of our field research methodologies, and twelve patents in the U.S. which expire in 2020, 2021 (2 patents), 2022 (2 patents), 2025, 2032, 2036, and 2037 (4 patents), respectively, covering, among other things, certain features of our field research technology and mapping tools. 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 on our portfolio of patents as a whole.

#### **Employees**

As of January 31, 2019, we employed 3,705 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 and has certain 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 2019 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, 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; our ability to identify, acquire and integrate acquisition candidates; our ability to realize the expected benefits, cost savings or other synergies from acquisitions, including ForRent, Realla and Cozy, 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 integrate our North America and International product offerings; 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; our ability to continue to develop and maintain our research operations headquarters in Richmond, Virginia as a technology innovation hub; 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; 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 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. As we continue to combine our operations with those that we have acquired, we must continue to assess the purposes for which various services may be used alone or together, and how we can best address those uses through stand-alone services or combinations of coordinating applications. 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, 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 utilize 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.

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, and wage and salary levels. 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 continue to invest in sales and marketing 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.

We rely on Internet search engines to drive traffic to our websites. If search results do not feature our websites prominently, traffic to our websites would decrease and our business could be adversely affected. Google, Bing, Yahoo! and other Internet search websites drive traffic to our websites, including CoStar.com, the Apartments.com network of rental websites, LoopNet.com,

BizBuySell.com and the Land.com network of land for sale websites. For example, when a user types an apartment building address into an Internet search engine, organic search ranking of our Apartments.com webpages will determine how prominently such webpages are displayed in the search results. However, our ability to maintain high organic search result rankings is not entirely within our control. Our competitors' search engine optimization, or SEO, efforts may result in their websites receiving a higher search result page ranking than the rankings our websites receive, or Internet search engines could revise their methodologies in a way that would adversely affect our search result rankings, each of which could slow the growth of our user base. Further, search engine providers could align with our competitors, which could adversely affect traffic to our websites. Our websites have experienced fluctuations in search result rankings in the past, and we anticipate similar fluctuations 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.

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, CoStar Showcase, 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 do not invest in product development and provide services that are attractive to our 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 to use, 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.

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 may incur costs in connection with an acquisition, but may ultimately be unable or unwilling to consummate the proposed transaction for various reasons. In addition, acquisitions involve numerous risks, including the ability to realize or capitalize on synergies created through combinations; managing the integration of personnel and products or services; managing the integration of acquired infrastructure and controls; potential increases in operating costs; managing geographically remote operations; the diversion of management's attention from other business concerns and potential disruptions in ongoing operations during integration; the inherent risks in entering markets and sectors in which we have either limited or no direct experience; and the potential loss of 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 fully integrate Cozy technology into the Apartments.com platform when and as expected or fully utilize and realize the benefits of Realla's expertise in capturing listings data to facilitate our expansion strategy in other European markets.

We have incurred severance costs and expect to incur additional costs to integrate prior acquisitions, 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. 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, and if obtained, the terms of such regulatory approvals may impose limitations on our ongoing operations or require us to divest assets or lines of business.

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 federal issued identification numbers, dates of birth, financial information and documents, employment information, background checks and credit scores, to facilitate the apartment rental application 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. 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 General Data Protection Regulation, or 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. Any failure to comply with the rules arising from the EU Data Protection Directive, the GDPR, and related national laws of EU member states, 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 and can delay or impede the development of new products. 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. While we believe that our policies are appropriate and that we are in compliance with our policies, 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 Listing Manager feature on CoStar, 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.

Competition could render our services uncompetitive and reduce our profitability. The markets for information systems and services and for online marketplaces in general is 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.

Our focus on 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 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 investments. Furthermore, our investments may not have their intended effect or produce the expected results. In addition, our external investments 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.

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. 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 may significantly increase our expenses and adversely affect our stock price. Currently and from time to time, we are a party to various third party claims, lawsuits, or government investigations. Any lawsuits, threatened lawsuits or government investigations in which we are involved, whether as plaintiff or defendant, could cost us a significant amount of time and money, could distract management's attention away from operating our business, could result in negative publicity and could adversely affect our stock price. In addition, if any claims are determined 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. Our insurance may not be sufficient to cover any losses we incur in connection with litigation claims.

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, 2018, we had approximately \$1.6 billion of goodwill, including \$1.6 billion in our North America operating segment and \$38 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 LoopNet, the Apartments.com network of rental websites, CoStar Showcase, LandandFarm.com and LandsofAmerica.com, 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 BizBuySell and BizQuest, 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 imposes 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 could exceed the profit generated from such expansion, which would reduce our profitability and adversely affect our financial position.

Fluctuating foreign currencies may negatively impact our business, results of operations and financial position. Due to our acquisitions of CoStar U.K. Limited (formerly FOCUS Information Limited), Property and Portfolio Research Ltd., Grecam S.A.S., Realla Ltd., the assets of Belbex Corporate, S.L., Thomas Daily, as well as our expansion into Canada, a portion of our business is denominated in the British Pound, Euro and Canadian dollar. 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 March 29, 2017, the United Kingdom provided its official notice to the European Council that it intends to leave the European Union, commencing a period of up to two years for the U.K. and the other E.U. member states to negotiate the terms of the withdrawal. Uncertainty over the terms of 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 could 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. In particular, there may be significant changes in U.S. laws and regulations by the current U.S. presidential administration that could affect a wide variety of industries and businesses, including our business. The current U.S. presidential administration has called for substantial change to fiscal and tax policies, and recently adopted tax reform legislation. If the current U.S. presidential administration materially modifies U.S. laws and regulations or fiscal and other tax policies, our business, financial condition, and results of operations could be adversely affected.

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 2019 and 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 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, 2018, 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 seasonality and 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. In addition, our results may be impacted by seasonality. 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 or seasonality effects 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 157,494 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: Austin, Texas; Boston, Massachusetts; Chicago, Illinois; Irvine, California; Los Angeles, California; and San Francisco, 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 the Registrant's Common Stock, 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 February 1, 2019, there were 1,422 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, 2017 and 2018 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, 2018:

#### ISSUER PURCHASES OF EQUITY SECURITIES

				Maximum Number of
Month, 2018	Total Number of	Average Price Paid	Shares Purchased	Shares that May Yet
	Shares	per Share	as Part of Publicly	Be Purchased Under
	Purchased	per snare	Announced Plans	the Plans or
			or Programs	Programs
October 1 through 31	397	\$412.01	_	_
November 1 through 30	_	_	_	_
December 1 through 31	1,420	348.49	_	_
Total	1,817 (1)	\$362.37	_	_

<sup>&</sup>lt;sup>(1)</sup> 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 Software & Services Index.

The comparison covers the period beginning December 31, 2013, and ending on December 31, 2018, and assumes the reinvestment of any dividends. Note that this performance is historical and is not necessarily indicative of future price performance.

Company / Index	12/31/13	12/31/14	12/31/15	12/31/16	12/31/17	12/31/18
CoStar Group, Inc.	\$100.00	\$ 99.49	\$111.98	\$102.12	\$160.88	\$182.76
S&P 500 Index	100.00	113.69	115.26	129.05	157.22	150.33
S&P 500 Internet Software & Services Index	100.00	106.60	142.11	149.47	210.38	192.59

Item 6. Selected Consolidated Financial and Operating Data

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

The following table provides selected consolidated financial and other operating data for the five years ended December 31, 2018. The consolidated statements of operations data shown below for each of the three years ended December 31, 2018, 2017 and 2016 and the consolidated balance sheet data as of December 31, 2018 and 2017 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 2015 and 2014 and the consolidated balance sheet data as of December 31, 2016, 2015 and 2014 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:	2	2014	2015	2016	2017	2018
Revenues	\$	575,936	\$711,764	\$837,630	\$965,230	\$1,191,832
Cost of revenues	1	156,979	188,885	173,814	220,403	269,933
Gross profit	4	118,957	522,879	663,816	744,827	921,899
Operating expenses	3	338,079	511,424	518,911	571,011	648,335
Income from operations	8	30,878	11,455	144,905	173,816	273,564
Interest and other income	5	516	537	1,773	4,044	13,281
Interest and other expense	(	(10,481)	(9,411)	(10,016)	(9,014)	(2,830 )
Loss on debt extinguishment	_		_	_	(3,788)	
Income before income taxes	7	70,913	2,581	136,662	165,058	284,015
Income tax expense	2	26,044	6,046	51,591	42,363	45,681
Net income (loss)	\$	\$44,869	\$(3,465)	\$85,071	\$122,695	\$238,334
Net income (loss) per share — basic	\$	\$1.48	\$(0.11)	\$2.64	\$3.70	\$6.61
Net income (loss) per share — diluted	\$	\$1.46	\$(0.11)	\$2.62	\$3.66	\$6.54
Weighted average shares outstanding — basic	3	30,215	31,950	32,167	33,200	36,058
Weighted average shares outstanding — diluted	3	30,641	31,950	32,436	33,559	36,448
		1 2				
		ecember 3	-	2015	2010	
Consolidated Balance Sheet Data:	2014	2015	2016	2017	2018	10.6
Cash, cash equivalents and long-term investments	-	3 \$437,3	•			
Working capital	480,521	,	,			
Total assets		33 2,079,5				
Total long-term liabilities	440,982	,		•	136,856	
Stockholders' equity	1,513,54	46 1,543,7	80 1,654,2	13 2,651,25	0 3,021,9	42

#### 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

We are the number one provider of information, analytics and online marketplaces to the commercial real estate industry in the U.S. and the 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; provide more information, analytics and marketing services than any of our competitors. We created and compiled our 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 subscription-based services consist primarily of information, analytics and online marketplace services offered over the internet to commercial real estate industry and related professionals. Our services are typically distributed to our clients under subscription-based license agreements that renew automatically, a majority of which have a term of one year. Upon renewal, 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. Our service offerings span all commercial property types, including office, retail, industrial, multifamily, commercial land, mixed-use and hospitality. 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, as applicable. Our subscription clients generally pay contract fees in advance on a monthly basis, but in some cases may pay us in advance on a quarterly or annual basis.

We also provide 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 and lenders via our other service offerings.

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 Professional®, CoStar COMPS Professional® and CoStar Tenant® and through our mobile applications, CoStar Mobile App and CoStar Go. 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.

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 also provide information services internationally, through our Grecam, Belbex and Thomas Daily businesses in France, Spain and Germany, respectively.

#### Online Marketplaces

Multifamily. Apartments.com<sup>TM</sup> is part of our network of apartment marketing sites, which also includes ApartmentFinder.com<sup>TM</sup>, ForRent.com®, ApartmentHomeLiving.com<sup>TM</sup>, WestsideRentals.com®, AFTER55.com®, CorporateHousing.com<sup>TM</sup>, ForRentUniversity.com® and Apartamentos.com<sup>TM</sup>, our apartment-listing site offered exclusively in Spanish. 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. We continue to integrate, develop and cross-sell the services offered by ForRent. On November 8, 2018, we acquired Cozy Services, Ltd. ("Cozy"), a leading 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. See Note 4 to the 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 Cozy.

Commercial property and land. Our LoopNet subscription-based, online marketplace services 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 LoopNet's online marketplace services to search for available property listings that meet their criteria. 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 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 services, which include BizQuest®, provide an online marketplace for businesses for sale. Our Land.com network of sites, which provide online marketplaces for rural lands for sale, includes LandsofAmerica, LandAndFarm and LandWatch®

As of December 31, 2018, 2017 and 2016 our annualized net bookings of subscription-based services on all contracts were approximately \$50 million, \$43 million and \$29 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, 2018, 2017 and 2016, our contract renewal rate for existing CoStar subscription-based services on annual contracts was approximately 90%, 91% and 90% respectively, and, therefore, our cancellation rate for those services was approximately 10%, 9%, and 10%, 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, news, analytics and online marketplace solutions, including expanding and improving our offerings for 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 have been, and plan to continue, integrating, further developing and cross-selling our services. To generate brand awareness and site traffic for our listing sites, we utilize a multi-channel marketing campaign, including television and radio advertising, online/digital advertising, social media and out-of-home ads, and search engine marketing. We expect to continue to invest in sales and marketing, consistent with historical levels, to promote our sites in 2019. As we continue to assess the success and effectiveness of our marketing campaign, we will continue to work to determine the optimal level of marketing investment for our services for future periods.

#### Our key priorities for 2019 include:

Continuing to develop new, and improve existing, online rental property service offerings for the apartments industry. We plan to utilize acquired platforms, including Cozy, along with our previously developed and newly developed technologies, to create a complete digital rental experience that enables renters to apply for leases, for landlords to run tenant credit and background checks and for landlords and tenants to generate and enter into leases and to make and process payments, all online through a single platform.

Continuing to develop and enhance CoStar Suite by making additional investments in analytical capabilities and developing products offerings with new capabilities focused on owners and lenders of commercial real estate. We also plan to invest in integrating the technology and infrastructure from other existing products into the CoStar Suite platform, including CoStar Real Estate Manager, in order to leverage data across our platforms and provide customers with additional functionality. We plan to invest further in our daily newsletter for U.S. subscribers, including providing curated content to our largest markets, and more personalized information.

Continuing to invest in the LoopNet marketplace by enhancing the content on the site, including high-quality imagery, seeking targeted advertisements and adding more content for premium listings, to better meet the needs of a broader cross section of the commercial real estate industry. Continuing to invest in our research operations to support continued growth of our information and analytics offerings. In furtherance of both of these priorities, we plan to continue to generate awareness and promote usage of Listing Manager, an online tool that allows customers with CoStar or LoopNet listings to update and manage their listings directly online. LoopNet users can also monitor listing performance, access lead and prospect reports, and upgrade exposure of their listings. We expect the use of this tool to result in more updates made directly by brokers and owners entering data directly into the self-service tool, which we believe will result in significant long-term cost savings and better quality data.

Continuing to invest in the growth of our international business. We plan to integrate Realla with our CoStar U.K. operations, including development of a single point of data entry to allow our clients to simultaneously arrange to display their commercial real estate listings through the CoStar Suite service offering and to also make them visible to prospective tenants and investors through Realla's marketing portal.

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 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 (also referred to as "non-GAAP EPS"). 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, restructuring costs and settlements and impairments incurred outside our

ordinary course of business. Non-GAAP net income and non-GAAP net income per diluted share are similarly adjusted for stock-based compensation expense, acquisition- and integration-related costs, 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. From this figure, we then subtract an assumed provision for income taxes to arrive at non-GAAP net income. 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 is net income. In calculating EBITDA, adjusted EBITDA, 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, 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, non-GAAP net income and non-GAAP net income per diluted share as a substitute for any GAAP financial measure, including net income. 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 Ouarterly 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, non-GAAP net income and non-GAAP net income per diluted share.

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 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, restructuring costs, and loss on debt extinguishment. Adjusted EBITDA, 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, 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, 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 may be useful for investors to consider and may result in current cash inflows. 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.

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.

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.

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 incurred may be useful for investors to consider because they 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 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, 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. We subtract an assumed provision for income taxes to calculate non-GAAP net income. In 2017 and 2016, we assumed a 38% tax rate, which approximated our historical long-term statutory corporate tax rate, excluding the impact of discrete items. In 2018 we assumed a 25% tax rate which reflects our full year 2018 statutory tax rate. The decrease in our tax rate in 2018 is mainly due to the Tax Act which reduced the U.S. federal corporate income tax rate from 35% to 21% effective January 1, 2018.

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,			
	2018	2017	2016	
Net income	\$238,334	\$122,695	\$85,071	
Amortization of acquired intangible assets in cost of revenues	20,586	19,707	22,819	
Amortization of acquired intangible assets in operating expenses	30,881	17,684	22,731	
Depreciation and other amortization	26,276	26,252	24,615	
Interest and other income	(13,281)	(4,044 )	(1,773)	
Interest and other expense	2,830	9,014	10,016	
Loss on debt extinguishment		3,788		
Income tax expense	45,681	42,363	51,591	
EBITDA	\$351,307	\$237,459	\$215,070	
Net cash flows provided by (used in)				
Operating activities	\$335,458	\$234,703	\$200,642	
Investing activities	\$(448,001)	\$(72,267)	\$(23,259)	
Financing activities	\$2,744	\$480,430	\$(30,563)	

## 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,						
	2018		2017		2016		
Revenues	\$1,191,832	100 %	\$965,230	100 %	\$837,630	100 %	
Cost of revenues	269,933	23	220,403	23	173,814	21	
Gross profit	921,899	77	744,827	77	663,816	79	
Operating expenses:							
Selling and marketing (excluding customer base amortization)	359,858	30	318,362	33	296,483	35	
Software development	100,937	8	88,850	9	76,400	9	
General and administrative	156,659	13	146,128	15	123,297	15	
Customer base amortization	30,881	3	17,671	2	22,731	3	
Total operating expenses	648,335	54	571,011	59	518,911	62	
Income from operations	273,564	23	173,816	18	144,905	17	
Interest and other income	13,281	1	4,044	_	1,773	_	
Interest and other expense	(2,830	) —	(9,014)	(1)	(10,016	(1)	
Loss on debt extinguishment			(3,788)		_		
Income before income taxes	284,015	24	165,058	17	136,662	16	
Income tax expense	45,681	4	42,363	4	51,591	6	
Net income	\$238,334	20 %	\$122,695	13 %	\$85,071	10 %	

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,									
	2018		2017		2016					
Information and analytics										
CoStar Suite <sup>(1)</sup>	\$545,195	46 %	\$463,185	48 %	\$408,456	49 %				
Information services <sup>(1)</sup>	67,624	6	72,618	8	77,178	9				
Online marketplaces										
Multifamily <sup>(1)</sup>	405,795	34	279,855	29	224,835	27				
Commercial property and land <sup>(1)</sup>	173,218	14	149,572	15	127,161	15				
Total revenues	\$1,191,832	100%	\$965,230	100%	\$837,630	100%				

 $<sup>^{(1)}</sup>$  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, 2018 and Year Ended December 31, 2017

The following table provides a comparison of our selected consolidated results of operations for the year ended December 31, 2018 and 2017 (in thousands of dollars):

D	2018	2017	Increase (Decrease) (\$)	Increase (Decrease) (%)
Revenues Co Stor Suite	¢ <i>E 1 E</i> 10 <i>E</i>	¢ 462 105	¢ 02 010	10 07
CoStar Suite	\$545,195	\$463,185	\$82,010	18 %
Information services	67,624	72,618	(4,994)	(7)
Multifamily	405,795	279,855	125,940	45
Commercial property and land	173,218	149,572	23,646	16
Total revenues	1,191,832	965,230	226,602	23
Cost of revenues	269,933	220,403	49,530	22
Gross profit	921,899	744,827	177,072	24
Operating expenses:				
Selling and marketing (excluding customer base amortization)	359,858	318,362	41,496	13
Software development	100,937	88,850	12,087	14
General and administrative	156,659	146,128	10,531	7
Customer base amortization	30,881	17,671	13,210	75
Total operating expenses	648,335	571,011	77,324	14
Income from operations	273,564	173,816	99,748	57
Interest and other income	13,281	4,044	9,237	228
Interest and other expense	(2,830)	(9,014)	(6,184)	(69)
Loss on extinguishment		(3,788)	(3,788)	NM
Income before income taxes	284,015	165,058	118,957	72
Income tax expense	45,681	42,363	3,318	8
Net income	\$238,334	\$122,695	\$115,639	94 %

NM - Not meaningful

Revenues. Revenues increased to \$1,192 million in 2018, from \$965 million in 2017. The \$227 million increase was primarily attributable to increased revenues of approximately \$82 million or 18% from continued organic growth of CoStar Suite, as well as, conversion of our LoopNet customers to our CoStar platform as a result of integration of the LoopNet and CoStar databases. Information services revenue decreased \$5 million or 7% primarily due to the continued wind down of LoopNet information services, including Premium Searcher, resulting in a loss of \$29 million of revenues, partially offset by a \$22 million increase in revenues from the continued growth of our CoStar Real Estate Manager offering. Multifamily revenue increased \$126 million or 45%, driven by incremental revenues related to the acquisition of ForRent. Commercial property and land revenue increased \$24 million or 16%, due to growth in our LoopNet online marketplace services of \$12 million, as well as, growth in our land and businesses for sale services of \$12 million.

Gross Profit. Gross profit increased to \$922 million in 2018, from \$745 million in 2017. The gross margin percentage remained relatively consistent as a percentage of revenues at 77% for both 2018 and 2017. Investment in research to further support our products and services led to an increase in cost of revenues of \$50 million. The increase was primarily due to additional research personnel costs of \$32 million, an increase of \$7 million in direct costs partially due to the ForRent and Cozy acquisitions and our Westside Rentals services, an increase in software licensing expense of \$3 million and \$2 million in occupancy related costs in connection with our research office in Richmond, Virginia.

Selling and Marketing Expenses. Selling and marketing expenses increased to \$360 million in 2018, from \$318 million in 2017, and decreased as a percentage of revenues to 30%, compared to 33% in 2017. The increase in the amount of selling and marketing expenses was due to a \$14 million increase in sales personnel costs, partially related to the acquisition of ForRent, which included additional salaries and retention costs. In addition, marketing related expenses increased \$21 million, primarily

due to increased search engine marketing costs due to the acquisition of ForRent. Sales conference and travel related costs also increased \$4 million.

Software Development Expenses. Software development expenses increased to \$101 million in 2018, from \$89 million in 2017, and decreased as a percentage of revenues to 8% in 2018, compared to 9% in 2017. The increase in the amount of software development expense was primarily due to a \$16 million increase in personnel costs, of which \$6 million was due to the acquisition of ForRent. These increases were partially offset by a \$4 million decrease in professional services and recruiting costs in 2018.

General and Administrative Expenses. General and administrative expenses increased to \$157 million in 2018, from \$146 million in 2017, and decreased as a percentage of revenues to 13% in 2018, compared to 15% 2017. The increase in the amount of general and administrative expenses was primarily due to an increase in administrative personnel costs of \$9 million to support the ongoing growth of the business and a \$6 million increase in software licensing costs, partially offset by a \$6 million decrease in professional services, primarily due to a reduction in legal costs of \$9 million.

Customer Base Amortization Expense. Customer base amortization expense increased to \$31 million in 2018, from \$18 million in 2017, and increased as a percentage of revenues to 3% in 2018, compared to 2% in 2017. The increase was primarily due to the ForRent acquisition, partially offset by lower amortization of existing customer base intangible assets acquired in prior years due to applying an accelerated amortization methodology for a majority of those assets.

Interest and Other Income. Interest and other income increased to \$13 million in 2018, from \$4 million in 2017. The increase was primarily due to our higher average cash and cash equivalent balance and interest rates in 2018 than in 2017.

Interest and Other Expense. Interest and other expense decreased to \$3 million in 2018, from \$9 million in 2017. The decrease was primarily due to the repayment of outstanding debt in connection with entering into the amended and restated credit agreement (the "2017 Credit Agreement") in October 2017.

Loss on Extinguishment. The loss on extinguishment recognized in 2017 was due to entering into the 2017 Credit Agreement, which amended and restated in its entirety the existing credit agreement dated April 1, 2014, and resulted in a loss on debt extinguishment of approximately \$4 million.

Income Tax Expense. Income tax expense increased to \$46 million in 2018, from \$42 million in 2017. The effective tax rate was 16% in 2018 compared to 26% in 2017. This decrease was primarily due to the Tax Act, which reduced the federal corporate income tax rate effective January 1, 2018, from 35% to 21% and excess tax benefits on share payments and state research and development tax credits.

Comparison of Business Segment Results for Year Ended December 31, 2018 and Year Ended December 31, 2017

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 includes the U.K., Spain, Germany and France. 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 \$1,157 million for the year ended December 31, 2018, from \$934 million for the year ended December 31, 2017. The increase in North America revenues was primarily due to a \$126 million increase in Multifamily revenues driven by incremental revenues related to the acquisition of ForRent, continued organic growth in CoStar Suite revenues of \$79 million and an increase of \$24 million in Commercial property and land revenue due to growth in our LoopNet online marketplace services of \$12 million, as well as, growth in our land and businesses for sale services of \$12 million. International revenues increased to \$35 million for the year ended December 31, 2018, from \$31 million for the year ended December 31, 2017. The increase in International revenues was primarily due to an increase in revenues from the further penetration of our subscription-based services, and to a lesser extent, a positive impact from foreign currency fluctuations in 2018.

Segment EBITDA. North America EBITDA increased to \$358 million for the year ended December 31, 2018, from \$237 million for the year ended December 31, 2017. The increase in North America EBITDA was due primarily to an increase in revenues, partially offset by increases in personnel related costs due to the ForRent acquisition and ongoing support of the business.

International EBITDA decreased to a loss of \$7 million for the year ended December 31, 2018, from \$1 million profit for the year ended December 31, 2017. The decrease in International EBITDA was primarily due to the continued investment in our International research operations in the U.K., along with higher occupancy related costs, additional travel and professional services costs.

Comparison of Year Ended December 31, 2017 and Year Ended December 31, 2016

The following table provides a comparison of our selected consolidated results of operations for the year ended December 31, 2017 and 2016 (in thousands of dollars):

	2017	2016	Increase (Decrease) (\$)	Increase (Decrease) (%)
Revenues	¢ 462 105	¢ 400 456	¢ 5 4 700	10 07
CoStar Suite	\$463,185	\$408,456	\$ 54,729	13 %
Information services	72,618	77,178	(4,560)	(6)
Multifamily	279,855	224,835	55,020	24
Commercial property and land	149,572	127,161	22,411	18
Total revenues	965,230	837,630	127,600	15
Cost of revenues	220,403	173,814	46,589	27
Gross profit	744,827	663,816	81,011	12
Operating expenses:				
Selling and marketing (excluding customer base amortization)	318,362	296,483	21,879	7
Software development	88,850	76,400	12,450	16
General and administrative	146,128	123,297	22,831	19
Customer base amortization	17,671	22,731	(5,060)	(22)
Total operating expenses	571,011	518,911	52,100	10
Income from operations	173,816	144,905	28,911	20
Interest and other income	4,044	1,773	2,271	NM
Interest and other expense	(9,014)	(10,016)	(1,002)	(10)
Loss on extinguishment	(3,788)		(3,788)	NM
Income before income taxes	165,058	136,662	28,396	21
Income tax expense	42,363	51,591	(9,228)	(18)
Net income	\$122,695	\$85,071	\$ 37,624	44 %

NM - Not meaningful

Revenues. Revenues increased to \$965 million in 2017, from \$838 million in 2016. The \$127 million increase was primarily attributable to increased revenues of approximately \$55 million or 13% from continued organic growth in CoStar Suite as well as a movement of our LoopNet customers onto our CoStar platform as a result of the LoopNet integration. Information services decreased \$5 million or 6% primarily due to continued wind down of LoopNet Information products including Premium Searcher partially offset by increases in our CoStar Real Estate Manager offering. Multifamily year over year increases of \$55 million or 24% was primarily attributable to organic growth as well as some smaller increases for several acquisitions. Commercial property and land revenue increased \$22 million or 18% over 2016 primarily due to organic growth as well as an increase due to the Landwatch acquisition.

Gross Profit. Gross profit increased to \$745 million in 2017, from \$664 million in 2016. The gross margin percentage decreased to 77% in 2017, from 79% in 2016. Revenue growth led to an increase in costs of revenues of \$38 million for additional research personnel costs, \$5 million in occupancy related costs from our new research office in Richmond, partially offset by a decrease in the amortization of intangible assets of \$4 million. Gross margins are impacted by the amortization of certain intangible assets acquired through acquisitions.

Selling and Marketing Expenses. Selling and marketing expenses increased to \$318 million in 2017, from \$296 million in 2016, and decreased as a percentage of revenues to 33% from 35%. The increase in the amount of selling and marketing expenses was primarily due to a \$25 million increase in sales personnel costs related to increased commission expense from higher sales in 2017, partially offset by a \$2 million decrease in digital marketing costs.

Software Development Expenses. Software development expenses increased to \$89 million in 2017, from \$76 million in 2016, and remained relatively consistent as a percentage of revenues at 9% for both 2017 and 2016. The increase in the amount of software development expense was primarily due to a \$14 million increase in personnel costs to support enhancements and upgrades to our services and integration of the backend systems of the LoopNet and CoStar databases.

General and Administrative Expenses. General and administrative expenses increased 19% to \$146 million in 2017, from \$123 million in 2016, and remained relatively consistent as a percentage of revenues at 15% in 2017 and 2016. The increase in the amount of general and administrative expenses was primarily due to legal costs related to litigation of approximately \$13 million, an increase in administrative personnel costs of \$5 million to support the ongoing growth of the business, and a \$3 million increase in charitable donations.

Customer Base Amortization Expense. Customer base amortization expense decreased to approximately \$18 million in 2017, from \$23 million in 2016, and decreased as a percentage of revenues to 2% in 2017, compared to 3% in 2016. The decrease in the amount and percentage of customer base amortization expense was primarily due to the accelerated amortization of acquired customer bases in 2016 as compared to 2017.

Interest and Other Income. Interest and other income increased to approximately \$4 million in 2017, compared to approximately \$2 million in 2016. The increase was primarily due to increased short term investments on a larger cash balance in 2017 than in 2016 mainly due to net proceeds of \$834 million from the equity offering in October 2017.

Interest and Other Expense. Interest and other expense remained relatively consistent at \$9 million in 2017 compared to \$10 million in 2016. The decrease was primarily due to the repayment of outstanding debt in October 2017 in connection with the 2017 Credit Agreement, partially offset by higher interest rates on outstanding debt in 2017 compared to 2016.

Loss on Extinguishment. The loss on extinguishment was due to the restatement and amendment of the 2014 Credit Agreement as the 2017 Credit Agreement, which resulted in a loss on debt extinguishment of approximately \$4 million.

Income Tax Expense. Income tax expense decreased to \$42 million in 2017 compared to \$52 million in 2016. Without the effect of discrete items, income tax expense would have increased by approximately \$12 million. Discrete items resulted in a reduction in tax expense of approximately \$22 million including the revaluation of the deferred tax liability at the lower federal statutory tax rate resulting in a \$7 million benefit. We also recognized approximately \$8 million benefit in net research and development tax benefits related to the periods 2013-2017. Finally, we recognized \$7 million benefit from the impact of the accounting rule change in ASU 2016-09 that provided for recognizing excess tax benefits in income tax expense as compared to additional paid in capital, which was the treatment prior to 2017.

Comparison of Business Segment Results for Year Ended December 31, 2017 and Year Ended December 31, 2016

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 includes the U.K., Spain, Germany and France. Management relies on an internal management reporting process that provides revenue and operating segment 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 \$934 million for the year ended December 31, 2017, compared to \$809 million for the year ended December 31, 2016. This increase in North America revenues was primarily due to increased revenues of approximately \$55 million from our Multifamily products, and an increase of \$55 million in CoStar Suite from the continued growth of our subscription-based services due to successful cross-selling of our services to our customers in existing markets, combined with continued high renewal rates. International revenues increased to \$31 million for the year ended December 31, 2017, compared to \$28 million for the year ended December 31, 2016. This increase was primarily due to continued growth of our subscription-based information services resulting from sales of CoStar Suite.

Segment EBITDA. North America EBITDA increased to \$237 million for the year ended December 31, 2017, compared to \$211 million for the year ended December 31, 2016. The increase in North America EBITDA was due primarily to an increase in revenues of \$125 million primarily offset by increased personnel costs from additional investments in our research operations and the opening of our Richmond research headquarters, as well as increased legal costs. International EBITDA decreased to \$1 million for the year ended December 31, 2017, compared to \$4 million for the year ended December 31, 2016. This decrease in International

EBITDA was primarily due to an increase in personnel costs from the relocation of our European research headquarters from Glasgow, Scotland to London, England and as a result of increased headcount from investments in our International research operations in Madrid, Spain and the U.K.

## 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.

	2018				2017		
	Mar. 31	Jun. 30	Sep. 30	Dec. 31	Mar. 31	Jun. 30	Sep
Revenues	\$273,718	\$297,018	\$305,525	\$315,571	\$226,553	\$237,153	\$24
Cost of revenues	62,477	67,136	72,072	68,248	51,346	55,273	55,4
Gross profit	211,241	229,882	233,453	247,323	175,207	181,880	192
Operating expenses	157,796	186,108	162,765	141,666	137,545	153,997	134
Income from operations	53,445	43,774	70,688	105,657	37,662	27,883	57,5
Interest and other income	2,987	2,652	3,035	4,607	429	605	555
Interest and other expense	(690	(728	) (717	(695	(2,686	) (2,693	(2,9
Loss on debt extinguishment	_	_					_
Income before income taxes	55,742	45,698	73,006	109,569	35,405	25,795	55,1
Income tax expense	3,511	1,863	14,247	26,060	13,275	3,611	20,9
Net income	\$52,231	\$43,835	\$58,759	\$83,509	\$22,130	\$22,184	\$34
Net income per share — basic	\$1.46	\$1.22	\$1.63	\$2.31	\$0.69	\$0.68	\$1.0
Net income per share — diluted	\$1.44	\$1.20	\$1.61	\$2.29	\$0.68	\$0.68	\$1.0

2018 2017

Mar. Jun. Sep. Dec. Mar. Jun. Sep. Dec. 31 30 30 31 31 30 30 31

Revenues 100 % 100 % 100 % 100 % 100 %