

UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549  
Form 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the Fiscal Year Ended December 31, 2016

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File Number: 001-34006  
CARTESIAN, INC.  
(Exact name of registrant as specified in its charter)

DELAWARE

48-1129619

(State or other jurisdiction of  
incorporation or organization)

(I.R.S. Employer  
identification number)

7300 COLLEGE BOULEVARD,  
SUITE 302, OVERLAND PARK, KANSAS 66210  
(Address of principal executive offices) (Zip Code)

REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE:  
(913) 345-9315  
SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Title of Each Class	Name of Each Exchange on Which Registered
COMMON STOCK, \$.005 PAR VALUE PER SHARE	The NASDAQ STOCK MARKET, LLC
PREFERRED STOCK PURCHASE RIGHTS	The NASDAQ STOCK MARKET, LLC

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:  
NONE.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES  NO

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES  NO

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

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

Large accelerated filer  Accelerated filer  Non-accelerated filer  Smaller reporting company   
(Do not check if a smaller reporting company)

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

The aggregate market value of the voting common stock held by non-affiliates of the Registrant, as of July 2, 2016 was approximately \$4,819,324. Shares of common stock held by each executive officer, director and holder of 5% or more of the outstanding common stock have been excluded for purposes of this calculation. The treatment of such holders as affiliates for purposes of this calculation is not intended as a conclusive determination of affiliate status for other purposes. As of February 24, 2017, the Registrant had 8,985,925 shares of common stock, par value \$0.005 per share (the Common Stock), issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

The information required to be provided in Part III (Items 10, 11, 12, 13 and 14) of this Annual Report on Form 10-K is hereby incorporated by reference from our definitive 2017 proxy statement which will be filed with the Securities and Exchange Commission within 120 days of the end of our fiscal year ended December 31, 2016.

CARTESIAN, INC.

FORM 10-K

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## PART I

When used in this report, unless the context requires otherwise, the terms "Cartesian," "we," "us," "our" or the "Company" refer to Cartesian, Inc. and its subsidiaries.

### CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

With the exception of current and historical information, this Annual Report on Form 10-K contains forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995. Forward-looking statements include, but are not limited to, statements of plans and objectives, statements of future economic performance or financial projections, statements of assumptions underlying such statements, and statements of the Company's or management's intentions, hopes, beliefs, expectations or predictions of the future. Forward-looking statements can often be identified by the use of forward-looking terminology, such as "will be," "should," "could," "plan," "estimate," "intend," "continue," "believe," "may," "expect," "hope," "anticipate," "goal" or "forecast," variations thereof or similar expressions.

Forward-looking statements involve risks and uncertainties and are not guarantees of future performance or results. Our actual financial condition, results of operations or business may vary materially from those contemplated by such forward-looking statements. Investors are cautioned not to place undue reliance on any forward-looking statements. Factors that might affect actual results, performance, or achievements include, among other things, our ability to generate sufficient cash flow from operations and obtain sufficient financing to pay our promissory note issued to Elutions if called for redemption by Elutions, our ability to successfully implement the strategic relationship with Elutions, conditions in the industry sectors that we serve, including the slowing of client decisions on proposals and project opportunities along with scope reduction of existing projects, overall economic and business conditions, including business and economic conditions in the countries in which we operate, our ability to retain the limited number of large clients that constitute a major portion of our revenues, our ability to protect client or Cartesian data or information systems from security breaches and cyber-attacks, technological advances and competitive factors in the markets in which we compete, volatility in foreign exchange rates, and the other factors described in "Risk Factors" in Item 1A below. Other factors that we have not identified in this document could also have this effect. All forward-looking statements made in this Annual Report on Form 10-K are made as of the date hereof. We will not necessarily update the information in this Annual Report on Form 10-K if any forward-looking statement later turns out to be inaccurate, except as may be required by law.

### ITEM 1. BUSINESS

#### GENERAL

Cartesian (f/k/a The Management Network Group, Inc.), a Delaware corporation, was founded in 1990 and is a leading specialist provider of consulting services and managed solutions to the global leaders in the communications, digital media, and technology sectors. We offer a portfolio of strategy, management, marketing, operational, and technology consulting services to help our clients build and execute strategies that transform their products, services and organizations and enhance the effectiveness and efficiency of their business operations. We have consulting experience in virtually every major aspect of managing and operating a global communications company. Our heritage of industry knowledge and deep technical and operational expertise has allowed us to continually enhance services we offer to our clients. In this way, our clients can leverage our expertise to optimize their performance, improve cash flow and gain sustainable competitive advantage in the market.

Our clientele includes leaders in the communications, digital media and technology industries. We serve wireless and wireline service providers, cable multiple systems operators ("MSO's") as well as technology companies, media and entertainment companies, and financial services firms that invest in the communications industry. Our clients are principally located in the United States, United Kingdom ("U.K.") and continental Western Europe.

We believe we are unique in our ability to provide a comprehensive business and technology solution to meet our clients' diverse needs, including: researching and assessing new opportunities; developing and launching new products; improving customer acquisition and retention; optimizing product profitability; enhancing business operations; assuring the delivery of critical programs; network transformation; strategic planning; advising on investments, mergers and acquisitions; and legal and regulatory support.

Our services are provided by a blend of experienced senior professionals from the communications industry and professionals recruited from both universities and other professional services firms. We believe our clients value our unbiased approach of providing technology-agnostic and vendor-neutral evaluations and recommendations that are based on a thorough knowledge of each solution and each client's unique situation. In doing so, we are able to capitalize on our extensive experience across complex multi-technology communications systems environments to provide what we believe are the most sound and practical recommendations to our clients.

We have evolved our business from its original focus of providing primarily management and operational consulting services to today providing a portfolio of consulting services and managed solutions. We have increased the depth and breadth of skill sets in our employee work base, diversified our technical competencies, expanded our core management consulting offerings and positioned our business to compete internationally.

We have strengthened Cartesian's technology consultancy services and broadened our managed analytics solutions through our Ascertain® software. Ascertain is an innovative and modular software suite whose foundations feature advanced revenue assurance and data integrity tools that when customized and integrated into client environments support fixed, wireless, internet service provider ("ISP"), data and content environments. Ascertain reflects an intellectual property investment of over 16 years and we are refining and reinventing the software to address existing and future challenges. We are investing further in defining our go-to-market offerings that are built with technology at the core.

In July 2015, we acquired all of the outstanding shares of capital stock of Famcombe France SARL and Famcombe Technology Limited (collectively, the "Famcombe Entities"). The Famcombe Entities operate primarily in the U.K. and Europe and are in the business of providing strategic consultancy, content security, testing and implementation services for broadcast and broadband internet digital television. The leaders and consultants of the Famcombe Entities are known experts in video, digital rights, content and security across multiple platforms, including broadcast, mobile and broadband networks. In addition to serving a complementary client base, the Famcombe Entities position Cartesian to support the growing digital TV needs of communications service providers. The Famcombe Entities provide cross-selling and upselling opportunities across our combined customer base, particularly in strategy and analytics. The global payTV market exceeds more than \$250 billion annually and continues to grow steadily. Convergence of content across digital media platforms is increasingly important in markets across the globe. Ensuring a high quality, seamless viewing experience along with the security of content is a requirement to compete effectively. Famcombe's experience in these areas along with Cartesian's strategic, operational and technical capabilities in serving global service providers strengthens our ability to support convergence and quad play offerings in this growing market.

As the industry continues to evolve, including the recent transformational movement of business IT infrastructures to cloud environments and the development of technologies for analyzing "Big Data", Cartesian expects to leverage its long history of engagement experience with clients to continue to evolve its software, develop new methodologies, and selectively expand its base of employee consultants.

Strategic alliance partnerships are an element of our strategy. In 2014, we entered into a strategic alliance and Investment Agreement with Elutions, Inc. ("Elutions"), a provider of operational business intelligence solutions. With regard to the commercial relationship, Elutions is a provider of smart building and smart asset management solutions for energy management. In the partnership with Elutions, Cartesian may provide: lead generation to Elutions, sales and marketing support and program management. For additional information regarding the alliance and transaction with Elutions, see Note 3, Strategic Alliance and Investment by Elutions, Inc., in the Notes to the Consolidated Financial Statements included in Item 8, "Consolidated Financial Statements", of this report.

## **MARKET OVERVIEW**

The global communications industry continues to evolve rapidly, driven by constant innovation in technology and business models. Convergence has broken down the traditional barriers between telecommunications, Internet, media and entertainment creating new competitive pressures for service providers. Innovation in mobile devices, consumer electronics and online services has brought new competitors into the market, such as Apple, Google, Facebook and Netflix. These dynamics are challenging existing industry competitors to explore new business models, and driving consolidation within sectors such as traditional wireline and wireless telecommunications. In addition, cable communications companies that primarily offered video services historically are now positioning themselves as providers of voice and other data and content services, including in the emerging area of "the Connected Home" and "the Internet of Things." Wireline, wireless and cable companies alike are focused on convergence and partnering - where any type of content or application can be delivered seamlessly across fixed or mobile networks.

While communications companies are investing in future growth, companies across most industries and sectors, including communications and media, are operating with increased expense discipline. Many firms are reducing their cost structures through actions which include lowering total headcount, decreasing information technology expenses by migrating to cloud environments, and leveraging data to gain insight into operations and potential efficiency gains. In addition, the industry we serve is experiencing rapid consolidation, creating opportunities and challenges as budgets shift toward integration programs. Spending decisions, both operating expenses and capital expenditures, are coming under increased scrutiny with a heightened focus on a demonstrated return on investment or lower total cost.

It has been our experience that because the expertise necessary to address the needs of the changing marketplace is typically outside communications companies' core competencies, they must ultimately either recruit and employ talent with the necessary experience or retain outside specialists. Additionally, the convergence of the communications, media and entertainment industries has expanded the breadth of experience and skill sets needed to execute new business plans. We believe due to the range of expertise required and the time and expense associated with hiring and training new personnel, bringing expertise in-house is often not a viable option. We believe customers will continue to contract with consultative firms or outsource some of the expertise required to adapt to new environments and capitalize on new technologies now emerging, while maintaining a cost effective structure. When retaining outside specialists, we believe communications companies need experts who fully understand the communications industry and can provide timely and unbiased advice and recommendations for cost-effective solutions and expense avoidance. Cartesian has positioned its business to respond to these anticipated needs.

## **BUSINESS STRATEGY**

Our objectives are three-fold. First, is to establish ourselves as the consulting company of choice to the global leaders in the communications, digital media, and technology industries, which includes the service providers, content creators, and technology companies that serve the industry and the financial services and investment banking firms that invest in the sector. We are placing emphasis on cultivating our top client relationships and these clients' most strategic initiatives, with the goal of expanding market penetration and our share of business with these clients. We also continue to investigate opportunities with new clients, including segments of the market we have not historically addressed but that may offer a high probability of a return on our business development investment. Secondly, we are evaluating ways to best evolve our technical and consulting offerings to focus on those that exhibit the greatest differentiation to our competitors and to broaden our offering in areas of long-term strategic importance to our customers; and third we look to develop partnerships as appropriate to add capabilities to our offering or expedite our go-to-market efforts. The following are detailed strategies we have adopted to pursue our objectives.

### ***- Develop and evolve offerings, technical solutions and thought leadership***

We plan to continue developing our portfolio of consulting services and managed solutions both organically and through alliance partners. Developing our portfolio involves building the capabilities that address our clients' most pressing needs.

### ***- Recruit and retain high quality professionals***

We believe a key element of our business model is the attraction and retention of high quality, experienced consultants. Our two primary challenges in the recruitment of new consulting personnel are the ability to recruit talented personnel with the skill sets necessary to capitalize on an industry undergoing revolutionary change and the ability to execute such recruitment with an appropriate compensation arrangement.

We enhance consultants' existing skill sets with proprietary toolsets that provide methodologies that augment their experience and help them to analyze and solve clients' problems. We utilize a network of databases to serve as a knowledge base, enabling consultant collaboration on engagements and providing support information and updates of Cartesian current toolsets and releases of next generation tools. Finally, we continue to manage our flexible employee and independent subject matter expert model to maximize skill set offerings, while minimizing the effect of non-billable consultant time.

### ***- Enhance our geographic presence***

We plan to further enhance our presence beyond the United States, the U.K., and France with emphasis on the top revenue generating clients on the European continent. We believe the competitive market expertise of our U.S. consultants can be a key factor for foreign companies facing the business issues associated with deregulation and competition, especially in Europe. Further, consolidation in the industries we serve has resulted in several of our customers expanding their reach into new markets, making those markets more readily accessible to us than in the past. We believe our technical solutions and our strategy consulting expertise strengthen Cartesian's presence and capabilities in new markets.

***- Increase penetration within top revenue-generating clients***

Our sales strategy focuses on increasing the amount of revenues and number of engagements within our top clients. This approach includes volume pricing arrangements and is designed to give us both revenue visibility and add efficiency to the model so as to ensure optimum utilization of our consultant base. In fiscal years 2016 and 2015, 77% and 87% of our revenues, respectively, came from our ten most significant customers.

**SERVICES**

Cartesian provides a portfolio of consulting services and managed solutions to clients in the communications, media and technology industries worldwide. Our services include:

***- Technical Consultancy***

We provide technical consultancy to support our clients in the delivery of complex, business critical programs. Our expertise includes: requirements definition and capture; data analysis; selecting and implementing systems for mediation, provisioning, customer and inter-operator billing; integration of systems to provide resilient automated processes; migrating end-customer products, customers and networks; and planning, managing and executing end-to-end systems and software testing.

***- Strategy and Business Case Development***

We provide comprehensive strategic analysis and advice to enable our clients to make informed decisions regarding future business plans. Our approach combines rigorous qualitative and quantitative analyses with a detailed understanding of industry trends, technologies, and developments. We provide clients with specific solutions to their key strategic issues relating to their existing business as well as new product and service opportunities. Our services include business case development, data and content strategies, marketing spending optimization, service and brand diversification, enterprise and small business strategies, technology commercialization and operational strategies.

***- Marketing Strategy***

We provide a breadth of marketing services to support our clients from strategy, to planning, through execution. Our deep understanding of the global communications environment and our creative and rigorous analytic techniques enable us to craft winning marketing strategies and programs for our clients. We see individual business issues in the context of overall industry financial and value relationships, allowing us to deliver detailed, focused and pragmatic recommendations and blueprints for sustainable impact and change. We provide program management and project delivery to support execution across the broad spectrum of marketing services such as Customer Segmentation, Customer Experience Assessment, Product Management, Retail Sales Channel Assessment and Marketing Communications.

***- Program Management***

We have a track record of success in the management, execution and delivery of quality consulting services in a cross-functional program management environment. We provide independent, impartial, centralized management and governance of inter-related projects in complex environments using a small group of experienced and dedicated resources. Our approach enables an organization to deliver projects faster, with higher quality and less cost, to meet, and often, exceed expectations. Our project management office engagements are supported by a superb track record, proven tool sets and methodologies, a focus on 'what works' and a keen understanding of both the financial imperatives of the business and the drivers of customer satisfaction.

***- Business and Operations Process Redesign and Reengineering***

We assess, design and implement business and operational processes within our clients' organizations in response to change such as new product introduction, expansion into new markets, customer service improvement, the need to comply with new regulation, and initiatives to improve operational efficiency.

We assist companies in taking a proactive approach to reviewing existing business and operating models. By properly addressing gaps in their process, they have the potential to recover millions of dollars annually.

### ***- Revenue and Cost Management***

Revenue management is now evolving into a proactive discipline covering cost reduction and optimization as well as profitability enhancement. Cartesian applies its robust revenue management methodologies to all phases of the service activation and revenue processes and approaches revenue assurance from an end-to-end, order-to-cash perspective. Proprietary toolsets, combined with in-depth operational expertise and a track record of success have proven to be the winning formula to enable our clients to generate significant cash flow improvements.

As mentioned, Cartesian's revenue assurance assessment tools include Ascertain, a flexible, scalable, configurable revenue management and data integrity toolset that provides timely evaluation of processes, metrics and control points. A fifth generation platform developed by the revenue assurance experts at Cartesian, Ascertain is able to support fixed, wireless, ISP, data, and content environments.

### ***- Technology Solutions***

We have developed a proprietary software platform, Ascertain, which allows us to rapidly create new software products, one-off tools and complete custom solutions to support customer goals and mitigate risks in their business. Available in an on-premise or cloud-based model, the Ascertain platform has been used as the foundation for our managed solutions offerings, our SmartXchange mobile device recapture service, as well as numerous custom client solutions. Our SmartXchange service is a fully-managed service for the collection, exchange and recycling of mobile devices.

### ***- Investment Advisory Services***

We provide a wide range of services to investment banking and private equity firms in connection with investments, mergers and acquisitions in the communications industry. Services include evaluation of management teams and business plans, identification of strengths and weaknesses of the other company, and analyses of the company's financial models, systems, products and operational and business processes. Post-investment support is also provided to help customers in the optimization of their investment.

## **COMPETITION**

The market for consulting services and software solutions remains intensely competitive, highly fragmented and rapidly changing. We face competition from major business and strategy consulting firms, large systems integrators and major global outsourcing firms as a result of the outsourcing of business support systems and operating support systems by communications companies, offshore development firms from the Asian markets, equipment and software firms that have added service offerings, boutique consulting firms and customers' internal resources. We believe that there has been a significant increase in recent years in demand for firms that can bundle business process outsourcing, or BPO, with systems and technical integration. Many of our competitors are large organizations that provide a broad range of services to companies in many industries, including the communications industry. In addition, we compete with boutique firms that maintain specialized skills and/or geographical advantages. Many information technology consulting firms also maintain significant practice groups devoted to the communications industry. Many of these competitors have significantly greater financial, technical and marketing resources and greater name recognition than us.

We believe that the principal competitive factors in our market include: the ability to provide payback on our services to clients through proven business cases; the ability to provide innovative solutions; the ability to provide deep and proven expertise and talent; the ability to provide capability and expertise in delivering complex projects through teams located globally; availability of resources; price of solutions; industry knowledge; understanding of user experience; and sophisticated project and program management capability.

We believe our primary competitive advantage stems from our exclusive focus on the communications, digital media and technology industries. As industry specialists, we believe that the complementary experience and expertise of our professionals represents a competitive advantage. Furthermore, we believe that our specialization equips us with a competitive differentiator in our ability to develop and deliver solutions that enhance our clients' revenues and asset utilization leading to greater return on investment. Our biggest challenge is normally the customer's internal resources and budget constraints. As a result, the most significant competitive advantage becomes long-term relationships with key client executives that have developed over time from consistency in responsiveness to their needs, quality and reliability of consultants and deliverables, and an appropriate price/value formula.

We have experienced reduced demand in certain offerings and a market trend of increased price competition, resulting primarily from market evolution and large firms with offshore capabilities and the financial resources to aggressively price engagements in which they have a particular interest in obtaining and the ability to provide technical support and outsourcing. These developments have required us to focus on decreasing our overall cost structure to align with lower revenue levels and direct our resources toward our top revenue generating clients in which we are deeply imbedded.

## **EMPLOYEES**

Our ability to recruit and retain experienced, highly qualified and highly motivated personnel has contributed greatly to our performance and will be critical in the future. We offer a flexible recruiting model that enhances our ability to attract consultants and to effectively manage utilization. Our consultants may work as full-time or part-time employees. We also have relationships with many independent contracting firms to assist in delivery of consulting solutions. Our current base of independent firms has specialized expertise in discrete areas of communications, and we typically deploy these firms only when their unique expertise/offering is required.

During fiscal year 2016, we utilized approximately 529 consultants, representing a combination of employee client service personnel and independent contracting firms. Of these, 325 were employee consultants and approximately 204 were working on engagements for us primarily through independent subcontracting firms. In addition to the consultants, we have an administrative staff of approximately 33 employees in the accounting and finance, marketing, recruiting, information technology, human resources, legal and administrative areas. As of December 31, 2016, we had 298 total employees, of which 262 were full-time.

## **BUSINESS SEGMENTS**

We identify our segments based on the way management organizes the business to assess performance and make operating decisions regarding the allocation of resources. In accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 280 "*Segment Reporting*," we have concluded that we have three reportable segments: the North America segment, the EMEA segment and the Strategic Alliances segment. The North America and EMEA segments are both single reportable, operating segments that encompass the Company's operational, technology and software consulting services inside of North America and outside of North America, respectively. Both reportable segments offer management consulting, custom developed software, and technical services. The Strategic Alliances reportable segment is a single, reportable segment that includes the Company's world-wide commercial activities undertaken with third-party service or solutions providers.

For a discussion of operating results by segment, please see Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations", and Note 7, Business Segments, Major Customers and Significant Group Concentrations of Credit Risk, in the Notes to the Consolidated Financial Statements included in Item 8 "Consolidated Financial Statements" of this report.

## **MAJOR CUSTOMERS**

Since our inception, we have provided services to over a thousand domestic and international customers, primarily communication service providers and large technology and applications firms serving the communications industry and financial firms that invest in this sector. In more recent years, we have added to our base of customers with cable, media and entertainment clients looking to leverage communications infrastructure to deliver offerings to the market. We depend on a small number of key customers for a significant portion of our revenues. For fiscal year 2016, three customers accounted for 22%, 17% and 12%, respectively, of our revenues. No other single customer accounted for 10% or more of our revenues. Also during fiscal year 2016, our top ten customers accounted for approximately 77% of total revenues. We generally provide discounted pricing for large projects on fixed commitments with long-term customers. Our clients' needs for services vary substantially from period to period and therefore they typically engage services on a project basis.

We continue to concentrate on large wireline, wireless, and cable MSOs headquartered principally in North America, the United Kingdom and Western Europe, as well as media and entertainment clients. We seek to offer broad and diversified services to these customers. We anticipate that operating results will continue to depend on the volume of services provided to a relatively small number of customers.

## **FOREIGN MARKETS**

A substantial portion of our business is conducted in foreign markets and a substantial portion of our revenues and costs are derived from our international business. Our international revenues in the 2016 fiscal year represented 59.1% of our total revenues, up from 55.9% of our total revenues in the 2015 fiscal year. For information on results of operations and assets by geographic location, please see Note 7, Business Segments, Major Customers and Significant Group Concentrations of Credit Risk, in the Notes to the Consolidated Financial Statements included in Item 8 "Consolidated Financial Statements" of this report. Our international operations expose us to a number of business and economic risks, including unfavorable foreign currency exchange rates or fluctuations; our ability to protect our intellectual property; the impact of foreign laws, regulations and trade customs; U.S. and foreign taxation issues; potential limits on our ability to repatriate foreign profits; and general political and economic trends, including political and economic conditions in foreign markets and the potential impact of terrorist attacks or international hostilities. If we are unable to achieve anticipated levels of revenues from or efficiently manage our international operations, our overall revenues and profitability may decline.

## **RESEARCH AND DEVELOPMENT AND SOFTWARE DEVELOPMENT EXPENSES**

Our research and development costs for internally-developed software products that are used by our associates in delivering services to our clients totaled \$0.9 million and \$1.4 million in fiscal years 2016 and 2015, respectively. During fiscal years 2016 and 2015, \$0.5 million and \$0.8 million, respectively, of these costs were expensed as incurred. During fiscal years 2016 and 2015, \$0.4 million and \$0.6 million of internal use software development costs were capitalized, respectively.

## **INTELLECTUAL PROPERTY**

Our success is dependent, in part, upon proprietary processes and methodologies. We rely upon a combination of copyright, trade secret, and trademark law to protect our intellectual property. Additionally, employees and consultants sign non-disclosure agreements to assist us in protecting our intellectual property. We utilize the tradenames "Cartesian" and "Famcombe" in our business. Solely for convenience, trademarks and trade names referred to in this Form 10-K may appear without the ® or tm symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights, or the rights of the applicable licensor to these trademarks and trade names.

## **SEASONALITY**

In the past, we have experienced seasonal fluctuations in revenues in the fourth quarter due primarily to the fewer number of business days because of the holiday periods occurring in that quarter. We continue to experience fluctuations in revenue in the fourth quarter and with global expansion, may experience fluctuations in summer months and other holiday periods.

## **WEBSITE ACCESS TO INFORMATION**

Our internet website address is [www.cartesian.com](http://www.cartesian.com). We make available, free of charge, through our website all of our filings with the Securities and Exchange Commission ("SEC"), including our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended ("Exchange Act"), as soon as reasonably practicable after we electronically file such material with, or furnish it to the SEC. The charters of our audit, nominating and compensation committees and our Code of Business Conduct are also available on our website and in print to any stockholder who requests them. We do not intend for information contained on our website to be part of this Annual Report on Form 10-K or incorporated into any other filings we make with the SEC.

The public may read and copy any materials that we file with the SEC at the SEC's Public Reference Room at 100 F Street NE, Washington, D.C. 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website ([www.sec.gov](http://www.sec.gov)) that contains reports, proxy and information statements, and other information regarding the issuers that file electronically with the SEC.

## ITEM 1A. RISK FACTORS

*Without additional financing, our existing capital resources may not be sufficient to repay an outstanding promissory note and fund our operations if the promissory note is called for redemption by the holder. Under Accounting Standards Update 2014-15, Presentation of Financial Statements - Going Concern, that contingency creates substantial doubt as to our ability to continue as a going concern because the call for redemption of the promissory note is outside of our control and resolving that contingency depends upon our raising additional debt or equity financing on acceptable terms.*

In August 2014, the FASB released ASU 2014-15, Presentation of Financial Statements – Going Concern, which requires a company to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the entity's ability to continue as a going concern within the one year period subsequent to the date that the financial statements are issued or within the one year period subsequent the date that the financial statements are available to be issued. This accounting guidance was effective for the Company in the fourth quarter of 2016. Our cash resources and cash flows from operations have been sufficient to pay our obligations and debts as they become due. However, our current capital resources may not be sufficient to repay a promissory note payable to Elutions Capital Ventures S.à r.l, a subsidiary of Elutions, in an aggregate original principal amount of \$3.3 million ("Elutions Note"), if it were to be called for redemption, and to fund our operations going forward. The Elutions Note matures on March 18, 2019, but may be called for redemption by the holder at any time and is payable 30 days after it is called for redemption. In addition, we are obligated to pay the earn-out consideration that is potentially payable in connection with the acquisition of the Famcombe Entities in 2015. The earn-out consideration that is potentially payable represents 40% of the notional purchase price of the Famcombe Entities and may be up to £719,483 pounds sterling (approximately US\$0.9 million based on an exchange rate of £1.000 = US\$1.234 as of December 31, 2016) and up to 461,055 shares of Company common stock (approximately £1,024,765 pounds sterling or US\$1.3 million based on an exchange rate of £1.000= US\$1.234 as of December 31, 2016). We are not in default under the Elutions Note and do not have any reason to currently expect that the Elutions Note will be called for redemption, given that (i) we are paying our debts as they become due (including making timely payments of interest on the Elutions Note), (ii) a call by the holder of the Elutions Note would cause Elutions to no longer have the right to purchase shares of stock pursuant to the Tracking Warrant and (iii) Elutions is a significant stockholder of the Company and a call by the holder of the Elutions Note for redemption may adversely affect the value of Elutions' other equity holdings in the Company. Under the Tracking Warrant, Elutions has the right to purchase up to 996,544 shares of common stock of the Company for \$3.28 per share. The Tracking Warrant expires March 18, 2020. Although we do not have any reason to currently expect that the Elutions Note will be called for redemption, any determination by the holder of the Elutions Note is outside of our control.

We have entered into receivable financing and factoring arrangements with respect to certain accounts receivable, provided that our ability to finance receivables is subject to limitations, including in certain arrangements the willingness of the purchaser to purchase individual accounts receivable that are offered by us. If the Elutions Note is called for redemption by the holder or if we realize significant negative cash flows from operations, we will be required to seek additional debt or equity financing. As further described in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources", Elutions has certain rights of first offer in connection with debt financings by us, subject to certain exceptions. In addition, if we obtain debt financing from other lenders, subject to certain exceptions, Elutions may require us to redeem the Elutions Note and to repurchase the shares of our common stock originally acquired by Elutions at a price based upon market prices over 15 trading days prior to the repurchase. In addition, Elutions has certain preemptive rights in connection with equity issuances by us, subject to certain exceptions, and we and our subsidiaries may not, without the prior written consent of Elutions, issue options, warrants or similar rights or convertible securities, other than with respect to certain excluded issuances.

We are exploring alternatives to address our liquidity needs in the event the Elutions Note is called for redemption. However, there can be no assurance that financing will be available in amounts or on terms acceptable to us, if at all. Our ability to secure new financing may be impacted by economic and financial market conditions. If financing is obtained through the sale of additional equity securities or debt securities with equity features, it could result in dilution to our stockholders. If adequate funds were not available on acceptable terms, our business, results of operations, cash flows, and financial condition could be materially adversely affected.

Our financial statements have been prepared assuming we will continue to operate as a going concern, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. Management has concluded under the new accounting standard that there is substantial doubt about the Company's ability to continue as a going concern if the Company is unable to arrange financing sufficient to pay off the Elutions note upon a call for redemption. If we become unable to continue as a going concern, we may have to (i) initiate litigation or seek protection under bankruptcy reorganization laws, or (ii) liquidate our assets and the values we receive for our assets in liquidation or dissolution could be significantly lower than the values reflected in our financial statements. Our financial statements do not include any adjustments that might result from the outcome of this uncertainty, including any adjustments to reflect the possible future effects of the recoverability and classification of recorded asset amounts or amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

***We are dependent on a limited number of large clients for a major portion of our revenues, and the loss of a major client or the cancellation of a significant contract could substantially reduce revenues and harm our business and liquidity.***

We derive a substantial portion of our revenues from a relatively limited number of clients. This results in part from a conscious strategy to market our services to the largest and most stable companies in the industry, but our concentration of revenues with a small number of clients does expose us to risk. Our revenues and financial condition could be impaired if a major client stopped using our services. The services required by any one client may be affected by industry consolidation or adverse industry conditions, technological developments, economic slowdown or the client's internal strategy or budget constraints. As a result, the volume of work performed for specific clients varies from period to period, and a major client in one period may not use our services in a subsequent period.

***Our business is affected by conditions in the communications, digital media, and technology industries, and any adverse changes in conditions in these industries may adversely affect the demand for our services.***

We focus extensively on customers in the converging communications, media and entertainment industry and investment banking and private equity firms investing in that industry. The sector in which we operate is currently going through significant consolidation. Consolidation within the sector tends to result in increased consolidation of competitors for services we provide. The supply chain divisions within larger clients, given sector consolidation, also tend to reduce the number of vendors utilized and to negotiate volume programs with select preferred vendors. This consolidation could result in further price reductions, fewer client projects, under-utilization of consultants, reduced operating margins and loss of market share. In addition, the rate of change brought about by new technology within the communications and media sector and related impact on our clients' business models may cause our clients to cancel or delay consulting initiatives. These trends could harm our business, financial condition, results of operations, liquidity and ability to raise capital. Other factors outside of our control could also cause companies to delay new product or business initiatives or to seek to control expenses by reducing the use of outside consultants. Future client financial difficulties and/or bankruptcies could require us to write-off receivables that are in excess of bad debt reserves, which would harm our results of operations in future periods.

***We have experienced losses from operations, and any future losses and negative cash flows from operations could materially adversely affect our limited liquidity.***

We incurred a net loss of \$13.9 million in the fiscal year ended December 31, 2016 and a net loss of approximately \$7.7 million in the fiscal year ended January 2, 2016. Our cash used by operations was \$2.3 million and \$2.6 million for the fiscal years ended December 31, 2016 and January 2, 2016, respectively. We had cash and cash equivalents of \$4.1 million and working capital of \$4.0 million as of December 31, 2016. If we do not achieve sustained profitable operations and positive cash flows from operations, we could experience significant liquidity challenges.

***Our revenues and operating results may fluctuate significantly from quarter-to-quarter, which could adversely affect our stock price.***

Our revenues and operating results may vary significantly from quarter-to-quarter due to a number of factors. Any of these factors could adversely affect our stock price. Factors that could cause quarterly fluctuations include:

- developments in the communications industry and economic conditions;
- fluctuations in the value of foreign currencies versus the U.S. dollar;
- global economic, industry and political conditions and related risks, including acts of terrorism;
- the beginning and ending of significant contracts during a quarter;
- the size and scope of projects;
- the potential loss of key clients or cancellation or deferral of significant engagements;
- the form of customer contracts changing primarily from time and materials to fixed price or contingent fee, based on project results;
- the loss of key management or consultants, which could cause clients to end their relationships with us;
- the ability of clients to terminate engagements without penalty;
- fluctuations in demand for our services resulting from client budget cuts, or project delays, industry consolidations or downturns or similar events;
- reductions in the prices of services offered by our competitors;
- seasonality during the summer, vacation and holiday periods, especially in Europe;
- consultant utilization and billing rates; and
- our use of estimates of the costs and timing to complete ongoing projects.

Because a significant portion of our non-consultant expenses are relatively fixed, a variation in the number of client assignments or the timing of the initiation or the completion of client assignments may cause significant variations in operating results from quarter-to-quarter. To the extent the addition of consultant employees is not followed by corresponding increases in revenues, additional expenses would be incurred that would not be matched by corresponding revenues. Therefore, profitability would decline and we could potentially experience further losses.

***Our information systems may experience an interruption or breach in security, which could damage our reputation and materially adversely affect our business and financial results of operations.***

We are dependent on information technology networks and systems to securely store, process, use and transmit electronic information and to communicate among our locations in the U.S., U.K. and Europe and with our clients, alliance partners, and vendors. Such information includes intellectual property, both our proprietary business information and that of our customers, and personally identifiable information of our customers and employees. As the breadth and complexity of this infrastructure continue to grow, the potential risk of cyber-attacks increases. Such cyber-attacks, whether through computer hacking, acts of vandalism or theft, malware, computer viruses, human errors, system failures, catastrophes or other unforeseen events, may lead to shutdowns or disruptions of our systems and the potential for unauthorized disclosure of sensitive or confidential information.

In providing services to clients, we often manage, utilize, store and transmit sensitive or confidential client or Cartesian data, including personal data. As a result, we are subject to numerous laws and regulations designed to protect this information, such as the national laws implementing the European Union Directive on Data Protection and various U.S. federal and state laws governing the protection of personally identifiable information. These laws and regulations are increasing in complexity and number, change frequently and sometimes conflict among the various countries in which we operate. If any person, including any of our employees, negligently disregards or intentionally breaches our established controls with respect to client or Cartesian data, or otherwise mismanages or misappropriates that data, we could be subject to significant monetary damages, regulatory enforcement actions, fines or criminal prosecution in one or more jurisdictions. These monetary damages might not be subject to a contractual limit of liability or an exclusion of consequential or indirect damages and could be significant. Failure to maintain sufficient controls to ensure privacy and the security of electronic information could damage our reputation and materially adversely affect our business and financial results.

In addition, unauthorized access to or through our information systems or those we develop for our clients, or unauthorized disclosure of sensitive or confidential client, employee or Cartesian data, whether by our employees or third parties, including through system failure, human error or a cyber-attack by computer programmers and hackers who may develop and deploy viruses, malware, worms or other malicious software programs, may result in significant remediation costs, legal liability, damage to our reputation and government sanctions and may have a material adverse effect on our business and financial results. Our cyber risk and other insurance might not be sufficient to cover us against claims related to security incidents, cyber-attacks and other related events. Attempting to protect our information technology networks and systems may cause us to incur increasing costs, including costs to deploy additional personnel and protection technologies, to train employees, and to engage third-party security experts and consultants.

***System disruption, failures or breaches may result in customer dissatisfaction, customer loss or both, which could materially and adversely affect our reputation, business and financial results.***

Our systems are an integral part of our ability to serve our customers and maintain our ongoing business operations. The continued and uninterrupted performance of these systems is critical to our success. Customers may become dissatisfied by any system failure that interrupts our ability to provide services to them. Sustained or repeated system failures would reduce the attractiveness of our services significantly and could result in decreased demand for our products and services.

Our ability to serve our customers depends on our ability to protect our computer systems against damage from fire, power loss, water damage, telecommunications failures, earthquake, terrorism attack, vandalism and similar unexpected adverse events. Despite our efforts to implement network security measures, our systems are also vulnerable to computer viruses, attacks, break-ins and similar disruptions from unauthorized tampering. There can be no assurance that a material failure, interruption or security breach will not occur or, if any does occur, that it will be adequately addressed.

We have experienced systems outages and service interruptions in the past. To date, these outages have not had a material adverse effect on us. Given the rapidly expanding and changing cybersecurity threat landscape that exists today, it is not commercially reasonable to expect that some sort of cybersecurity event will never occur to Cartesian or the systems of any third-party providers Cartesian relies upon. This is particularly true because the techniques used change frequently or are not recognized until launched and attacks can originate from a wide array of sources, including third parties outside the Company, such as persons involved in organized crimes or associated with external service providers. Those parties may also attempt to fraudulently induce employees or customers or other users of our systems to disclose sensitive information to gain access to our data or that of our customers or clients.

We are evaluating our cybersecurity program to put a greater focus on prevention, detection and incident response. However, in the future, a prolonged system-wide outage or frequent outages could cause harm to our reputation and could cause our customers to make claims against us for damages allegedly resulting from an outage or interruption. Any damage or failure that interrupts or delays our operations could result in material harm to our business and expose us to material liabilities. Should these measures be insufficient, fail or be breached our operations could be adversely affected, possibly materially.

***Our controls and procedures may fail or be circumvented, which could have a material adverse effect on our reputation, business and financial results.***

We maintain internal controls, disclosure controls and procedures, and corporate governance policies and procedures. Any system of controls, however well designed and operated, is based in part on certain assumptions and can provide only reasonable, not absolute, assurances that the objectives of the system are met. Any failure or circumvention of our controls and procedures or a failure to establish appropriate controls or to comply with regulations related to controls and procedures could have a material adverse effect on our reputation, business and financial results.

***We are subject to operational risk, and resulting losses from operational risk could have a material adverse effect on our reputation, business and financial results.***

We are subject to operational risk, which represents the risk of loss resulting from human error, inadequate or failed internal processes and systems, and external events. These events include, among other things, threats to our cybersecurity, as we are reliant upon information systems and the internet to conduct certain of our business activities. Although we seek to mitigate operational risk through a system of internal controls, resulting losses from operational risk could take the form of explicit charges, increased operational costs, harm to our reputation or foregone opportunities, any and all of which could have a material adverse effect on our reputation, business and financial results.

***A significant portion of our business is represented by fixed fee contracts, which expose us to additional risks.***

Fixed fee contracts entail subjective judgments and estimates about revenue recognition and are subject to uncertainties and contingencies. Fixed fee contracts expose us to the risk that our costs of performing the contract may be higher than expected, which may reduce or eliminate our profit margin from the contract or result in a loss.

***The market in which we operate is intensely competitive, and actions by competitors could render our services less competitive, causing revenues and income to decline.***

The market for communications consulting services remains intensely competitive, highly fragmented and rapidly changing. We face competition from major business and strategy consulting firms, large systems integration and major global outsourcing firms as a result of the outsourcing of business support systems and operating support systems by communications companies, offshore development firms from the Asian markets, equipment and software firms that have added service offerings, boutique consulting firms and customers' internal resources. We believe that there has been a significant increase in recent years in demand for firms that can bundle business process outsourcing, or BPO, with systems and technical integration. Many of our competitors are large organizations that provide a broad range of services to companies in many industries, including the communications industry. In addition, we compete with boutique firms that maintain specialized skills and/or geographical advantages. Many information technology consulting firms also maintain significant practice groups devoted to the communications industry. Many of these competitors have significantly greater financial, technical and marketing resources and greater name recognition than us. We may not be able to compete successfully with our existing competitors or with any new competitors. If we are unable to compete effectively, our market position, and therefore our revenues and profitability, would decline.

***Our international operations expose us to a number of business and economic risks, which could result in increased expenses and declining profitability.***

A substantial portion of our business is conducted in foreign markets and a substantial portion of our revenues and costs are derived from our international business. Our international operations expose us to a number of business and economic risks, including:

- unfavorable foreign currency exchange rates or fluctuations;
- difficulties in staffing and managing foreign operations;
- seasonal reductions in business activity;
- competition from domestic and foreign-based consulting companies;
- our ability to protect our intellectual property;
- unexpected changes in trading policies and regulatory requirements;
- legal uncertainties inherent in transnational operations such as export and import regulations, tariffs and other trade barriers;
- the impact of foreign laws, regulations and trade customs;
- U.S. and foreign taxation issues;
- operational issues such as longer customer payment cycles and greater difficulties in collecting accounts receivable;
- language and cultural differences;
- changes in foreign communications markets;
- increased cost of marketing to and servicing international clients;
- general political and economic trends, including economic conditions in foreign markets and the potential impact of terrorist attacks or international hostilities; and
- expropriations of assets, including bank accounts, intellectual property and physical assets by foreign governments.

In addition, we may not be able to successfully execute our business plan in foreign markets. If we are unable to achieve anticipated levels of revenues from or efficiently manage our international operations, our overall revenues and profitability may decline.

***Our engagements with clients may not be profitable or may be terminated by our clients on short notice, which would adversely affect our results of operations.***

Unexpected costs, delays or failure to achieve anticipated cost reductions could make our contracts unprofitable. We have many types of contracts, including time and materials contracts, fixed-price contracts and contingent fee contracts. When making proposals for engagements, we estimate the costs and timing for completing the projects. These estimates reflect our best judgment regarding our costs, as well as the efficiencies of our methodologies and professionals as we plan to deploy them on our projects. Any increased or unexpected costs, delays or failures to achieve anticipated cost reductions in connection with the performance of these engagements, including delays caused by factors outside our control, could make these contracts less profitable or unprofitable, which would have an adverse effect on our profit margin.

Under many of our contracts, the payment of some or all of our fees is conditioned upon our performance. We have increasingly moved away from contracts that are priced solely on a time and materials basis and toward contracts that also include incentives related to factors such as benefits produced. The trend to include greater incentives in our contracts may increase the variability in revenues and margins earned on such contracts, and may expose us to greater risk of loss on the contracts if we do not perform successfully. Additionally, the estimates required for revenue recognition on these contracts expose us to variability in financial results.

A majority of our contracts can be terminated by our clients with short notice and without significant penalty. Our clients typically retain us on a non-exclusive, engagement-by-engagement basis, rather than under exclusive long-term contracts. A majority of our consulting engagements are less than 12 months in duration. The advance notice of termination required for contracts of shorter duration and lower revenues is typically 30 days. Longer-term, larger and more complex contracts generally require a longer notice period for termination and may include an early termination charge to be paid to us. Additionally, large client projects involve multiple engagements or stages, and there is a risk that a client may choose not to retain us for additional stages of a project or that a client will cancel or delay additional planned engagements. These terminations, cancellations or delays could result from factors unrelated to our work product or the project, such as business or financial conditions of the client, changes in client strategies or the economy in general. When contracts are terminated, we lose the associated revenues and we may not be able to eliminate associated costs in a timely manner. Consequently, our profit margins in subsequent periods may be lower than expected.

***Our profitability will suffer if we are not able to maintain our pricing and utilization rates and control costs.***

Our profitability is largely a function of the rates we are able to obtain for our services and the utilization rate, or chargeability, of our professionals. If we do not maintain pricing for our services and an appropriate utilization rate for our professionals without corresponding cost reductions, our profitability will suffer. We are under increasing price competition from competitors, which could adversely affect our profitability.

***We must continually enhance our services to meet the changing needs of the convergence of communications customers with media and entertainment, or we may lose future business to our competitors.***

Our future success will depend upon our ability to enhance existing services and to introduce new services to meet the requirements of customers in a rapidly developing and evolving market, particularly in the areas of wireless communications and next-generation technologies supporting the convergence of communications, media and entertainment. Present or future services may not satisfy the needs of the communications market. If we are unable to anticipate or respond adequately to customer needs, we may lose business and our financial performance will suffer.

***If we are not able to effectively recruit and retain management and consulting personnel that provide us with new talent sets enabling the implementation of new strategic offerings in a rapidly changing market, our financial performance may be negatively impacted.***

Our ability to adapt to changing market conditions will depend on our ability to recruit and retain talented personnel, which cannot be assured. We may face two critical challenges in the recruitment of new management personnel. The first is the ability to recruit talented management personnel with the skill sets necessary to capitalize on an industry undergoing revolutionary change, and the second is the ability to execute such recruitment with an appropriate compensation arrangement. If we are unable to recruit and retain the people we need to perform our consulting engagements in a rapidly changing environment, our business may suffer.

The number of potential consultants that meet our hiring criteria is relatively small, and there is significant competition for these consultants from direct competitors and others in our sector. Competition for these consultants may result in significant increases in our costs to attract and retain the consultants, which could reduce margins and profitability. Any inability to recruit new consultants or retain existing consultants could impair our ability to service existing engagements or undertake new engagements. If we are unable to attract and retain quality consultants, our revenues and profitability would decline.

***We are dependent on a limited number of key personnel, and the loss of these individuals could harm our competitive position and financial performance.***

Our business consists primarily of the delivery of professional services and, accordingly, our success depends upon the efforts, abilities, business generation capabilities and project execution of our executive officers and key consultants. Our success is also dependent upon the managerial, operational, marketing, and administrative skills of our executive officers. The loss of any executive officer, business unit manager or key consultant or group of consultants, or the failure of these individuals to generate business or otherwise perform at or above expectations, could result in a loss of customers or revenues or increases in expenses, any of which could harm our financial performance.

***Our business could be materially adversely affected as a result of the risks associated with strategic alliances.***

We have strategic alliances, such as our strategic alliance with Elutions, and we may enter into or develop strategic alliances in the future in order to expand our reach into markets. There can be no assurance that we will be successful in our ongoing strategic alliances or that we will be able to find suitable business relationships as we develop new products, services or strategies. The success of these alliances depends on various factors over which we may have limited or no control and requires ongoing and effective cooperation with our strategic partners. Strategic alliances are inherently subject to significant risks that could materially and adversely affect our business, financial condition and operating results. In addition, there can be no assurance that companies with which we have strategic alliances, certain of which may have substantially greater financial, marketing or technological resources than us, will not develop or market products in competition with us in the future, discontinue their alliances with us or form alliances with our competitors.

***We depend on subcontractors or the third parties with whom we partner for certain projects and service offerings. If these parties fail to satisfy their obligations to us or we are unable to maintain these relationships, our financial performance and business prospects could be adversely affected.***

Certain of our projects and service offerings require that we utilize subcontractors or that our services and solutions integrate with the software, systems, or infrastructure requirements of other vendors and service providers. Our ability to serve our clients and deliver and implement our solutions in a timely manner depends on our ability to retain and maintain relationships with subcontractors, vendors, and service providers and the ability of these subcontractors, vendors, and service providers to meet their obligations in a timely manner, as well as on our effective oversight of their performance. There is a risk that we may have disputes with our subcontractors arising from, among other things, the quality and timeliness of work performed by the subcontractors or customer concerns about the subcontractors. Disputes with subcontractors could lead to litigation. Adverse judgments or settlements in legal disputes may result in significant monetary damages or injunctive relief against us. In addition, if any of our subcontractors fails to perform on a timely basis the agreed-upon services, our ability to fulfill our obligations as a prime contractor may be jeopardized. Subcontractor performance deficiencies could result in the termination of our contract for default. A termination for default could expose us to liability for damages and have an adverse effect on our financial performance and our ability to compete for future contracts.

***We previously classified a large number of service providers and subcontractors as independent contractors for tax and employment law purposes. If these firms or personnel were to be reclassified as employees, we could be subject to back taxes, interest, penalties and other legal claims.***

We previously provided a significant percentage of consulting services through independent contractors and, therefore, did not pay federal or state employment taxes or withhold income taxes for such persons. We generally did not include these independent contractors in our benefit plans. In the future, the Internal Revenue Service, or state authorities may challenge the status of consultants as independent contractors. Independent contractors may also initiate proceedings to seek reclassification as employees under state law. In either case, if persons engaged by us as independent contractors were determined to be employees by the Internal Revenue Service, any state taxation department, or a court, we could become liable for amounts required to be paid or withheld in prior periods along with interest and penalties. In addition, we could be required to include such contractors in benefit plans retroactively and going forward.

***We could be subject to claims for professional liability, which could harm our financial performance.***

As a provider of professional services, we face the risk of liability claims. A liability claim brought against us could harm our business. We may also be subject to claims by clients for the actions of our consultants and employees arising from damages to clients' business or otherwise, or clients may demand a reduction in fees because of dissatisfaction with our services or the services of our independent contractors.

***Our inability to protect our intellectual property could harm our competitive position and financial performance.***

Despite our efforts to protect proprietary rights from unauthorized use or disclosure, parties, including former employees or consultants, may attempt to disclose, obtain or use our solutions or technologies. The steps we have taken may not prevent misappropriation of our intellectual property, particularly in foreign countries where laws or law enforcement practices may not protect proprietary rights as fully as in the United States. Unauthorized disclosure of our proprietary information could make our solutions and methodologies available to others and harm our competitive position.

***We may not be able to use some or all of our net operating loss carry-forwards to offset future income.***

We have net operating loss carryforwards due to prior period losses, which if not utilized will expire at various times between 2020 and 2036. If we continue to report net operating losses for financial reporting in either our domestic or international operations, no additional tax benefit would be recognized for those losses, since we will not have accumulated enough positive evidence to support our ability to utilize the net operating loss carryforwards in the future. If we are unable to generate sufficient taxable income to utilize our net operating loss carryforwards, these carryforwards could expire unused and be unavailable to offset future income tax liabilities.

In addition, under Section 382 of the Internal Revenue Code of 1986, as amended, a corporation that undergoes an "ownership change" (generally defined as a greater than 50% change (by value) in its equity ownership over a three-year period) is subject to limitation on its ability to utilize its pre-change net operating loss carry-forwards, or net operating losses, to offset future taxable income. Future changes in our stock ownership, which may be outside of our control, may trigger an ownership change, as may future equity offerings or acquisitions that have equity as a component of the purchase price. If an ownership change has occurred or does occur in the future, our ability to utilize our net operating losses to offset income if we attain profitability may be limited.

**Risks Related to Our Common Stock**

***The possible issuance of common stock subject to options and warrants may dilute the interest of stockholders.***

We granted warrants to purchase a total of 4,396,544 shares of our common stock under the Tracking Warrant and the Incentive Warrant (each as defined below) issued to Elutions in connection with our strategic relationship with Elutions, as more fully described in Note 3, Strategic Alliance and Investment by Elutions, Inc., in the Notes to the Consolidated Financial Statements included in Item 8 "Consolidated Financial Statements" of this report. In addition, the warrants include economic anti-dilution provisions, which provide that if we issue shares of common stock in the future below market price in certain transactions, the number of shares of common stock that could be acquired by Elutions may increase, further diluting the ownership interests and voting rights of our other stockholders.

The warrants also permit Elutions (subject to certain exceptions) to purchase shares in future equity offerings made by us on a pro rata basis to all stockholders, and our Investment Agreement with Elutions grants it preemptive rights with respect to certain other equity issuances by us. Although the purchase rights provisions in the warrants and preemptive rights provisions in the Investment Agreement are intended to allow Elutions to maintain its potential ownership percentage, such provisions may cause Elutions' ownership percentage to increase if other stockholders do not exercise their purchase rights in a rights offering that triggers the purchase rights under the warrants or if we do not sell all of the remaining shares in an offering for which Elutions was granted preemptive rights under the Investment Agreement, subject to certain limits on Elutions' percentage ownership of our common stock, as described below.

In addition, our agreement with Elutions requires us to negotiate in good faith with Elutions for the purchase by Elutions of additional shares of our common stock equal to 6.5% of outstanding shares from us or in open market purchases if Elutions then owns or is vested with the right to acquire 38.5% of the shares of our common stock then outstanding, subject to any applicable stockholder approval requirements. These additional issuances would substantially dilute the ownership interests and voting rights of our other stockholders.

***The market price of our common stock is volatile, and investors may experience investment losses.***

Our stock price is volatile and could decline or fluctuate in response to a variety of factors, including:

- any failure to achieve sustained profitable operations and positive cash flow;
- any adverse changes in our liquidity;
- variations in quarterly operating results;
- announcements of technological innovations that could render our talent outdated;
- market perceptions of and future trends in the sector in which we operate;
- future acquisitions or strategic alliances by us or others in the industry;
- failure to achieve financial analysts' or our own estimates of revenues or operating results;
- our relatively small public float and the relatively low volume at which our stock trades;
- changes in estimates of performance or recommendations by financial analysts;
- any future reduction in our revenues; and
- any future adverse market conditions in the communications industry or the economy as a whole.

In addition, the stock market itself experiences significant price and volume fluctuations. These fluctuations particularly affect the market prices of the securities of many technology and communications companies. These broad market fluctuations could harm the market price of our common stock. Our market capitalization may also discourage analysts and investors from following us. Because of our limited public float, our stock price can be susceptible to significant fluctuations based upon a comparatively low trading volume. Additionally, due to the limited public float of our common stock, investors may find their investment illiquid, and suffer losses.

***The largest beneficial owner of our common stock may have substantial influence over us.***

In connection with the entering into our strategic relationship with Elutions, as more fully described in Note 3, Strategic Alliance and Investment by Elutions, Inc., in the Notes to the Consolidated Financial Statements included in Item 8 "Consolidated Financial Statements" of this report, we issued to Elutions 609,756 shares of our common stock and a Tracking Warrant to purchase 996,544 shares of our common stock. These issuances, together, represent approximately 16.1% of our outstanding shares of common stock on a fully diluted basis after such potential issuance under the Tracking Warrant, based on the shares of common stock outstanding as of December 31, 2016. In addition, together with the Incentive Warrant, the total potential ownership amount of Elutions would represent approximately 37.4% of our issued and outstanding shares of common stock on a fully diluted basis after such potential issuances under the Warrants, based on the shares of common stock outstanding as of December 31, 2016. Accordingly, Elutions is the largest beneficial owner of our shares of common stock and has substantial current and potential future influence over all matters submitted to the stockholders for approval (including the election and removal of directors and any merger, consolidation or sale of all or substantially all of our assets).

In addition, Elutions has certain rights under the Investment Agreement in connection with its investment in Cartesian. We agreed to certain affirmative and negative covenants in the Investment Agreement with respect to the promissory note issued in the transaction with Elutions. Also, as further described in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources", Elutions has certain rights of first offer in connection with debt financing by us and has certain preemptive rights in connection with equity issuances by us, subject in each case to certain exceptions. In addition, we and our subsidiaries may not, without the prior written consent of Elutions, issue options, warrants or similar rights or convertible securities, other than with respect to certain excluded issuances.

There can be no assurance that Elutions' interests will not be adverse to the interests of our other stockholders. This concentration of ownership of our shares of common stock and other rights may have the effect of delaying, deferring or preventing a change in control, impeding a merger, consolidation, takeover or other business combination involving us or discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of us, any of which could be beneficial to our stockholders. Elutions, or other persons who control a substantial percentage of our common stock, including members of our Board of Directors, may experience conflicts between their own interests or the interests of their investors and the interests of our public stockholders.

***We may seek to raise additional funds in the future, which may be dilutive to stockholders or impose operational restrictions.***

We may seek to obtain new debt or equity financing in the future to support our operations or complete acquisitions. There can be no assurances any such capital would be available to us on acceptable terms. Any additional equity financing, if available, may be dilutive to our stockholders and debt financing, if available, may involve restrictive covenants, which may limit our operating flexibility. If additional funds are raised through the issuance of equity securities, our stockholders may experience dilution in the voting power or net book value per share of their stock. Any additional equity securities could also have rights, preferences and privileges senior to those of our common stock.

***We may not satisfy The NASDAQ Capital Market's requirements for continued listing. If we cannot satisfy these requirements, NASDAQ could delist our common stock.***

Our common stock is listed on The NASDAQ Capital Market. To continue to be listed on NASDAQ, we are required to satisfy a number of conditions. In August 2016, we received two letters from NASDAQ, with the first letter notifying us of our failure to maintain a minimum closing bid price of \$1.00 over the preceding 30 consecutive business days for our common stock. The second letter notified us of our failure to maintain a minimum of \$10,000,000 in stockholders' equity as required for companies trading on The NASDAQ Global Market. In response to the second letter, we transferred our securities to The NASDAQ Capital Market in September 2016 to regain compliance with the minimum stockholders' equity requirement. On January 23, 2017, we received notification from NASDAQ that since the closing bid price of our common shares had been at \$1.00 per share or greater for 10 consecutive business days, we were again in compliance with the minimum bid price requirement.

We cannot assure you that we will be able to satisfy the NASDAQ listing requirements in the future. If we are delisted from NASDAQ, trading in our shares of common stock may be conducted, if available, on the "OTC Bulletin Board Service" or, if available, via another market. In the event of such delisting, an investor would likely find it significantly more difficult to dispose of, or to obtain accurate quotations as to the value of the shares of our common stock, and our ability to raise future capital through the sale of the shares of our common stock or other securities convertible into or exercisable for our common stock could be severely limited.

***Anti-takeover provisions, our right to issue preferred stock and our agreements with Elutions could make a third party acquisition difficult.***

Our Certificate of Incorporation, Bylaws, Rights Agreement and anti-takeover provisions of Delaware law could make it more difficult for a third party to acquire control of our Company. The anti-takeover provisions, in addition to our relatively small public float, could make it more difficult for a third party to acquire us, even if such transactions were in the best interest of our stockholders.

Elutions' rights under the Investment Agreement (including Elutions' right to require us to assign to Elutions certain customer contracts obtained jointly with Elutions if a competitor acquires control of us and Elutions' right of first offer to loan funds to us in the future if we intend to incur or assume certain indebtedness, subject to certain exceptions), could make it more difficult and expensive for a third party to pursue an acquisition of us. In addition, in the event of a change of control of us, any shares subject to the Incentive Warrant that are "locked in" at the time of the change of control, i.e. a client contract or client statement of work has been signed, shall immediately vest. By potentially discouraging initiation of any such unsolicited takeover attempts or acquisition proposals, Elutions' increased ownership position and other rights may limit the opportunity for our stockholders to dispose of their shares at the higher price generally available in takeover attempts or acquisition proposals.

#### **ITEM 1B. UNRESOLVED STAFF COMMENTS**

Not applicable.

## ITEM 2. PROPERTIES

Our principal executive offices are located in a 10,400 square foot facility in Overland Park, Kansas. This facility houses the corporate and administrative offices and is under a lease which expires in August 2018. In addition to the executive office, we also lease the following facilities which are primarily utilized by management and consulting personnel.

Location	Sq. Feet	Lease Expiration
McLean, Virginia	4,881	July 2019 <sup>(1)</sup>
Boston, Massachusetts	11,763	October 2021 <sup>(2)</sup>
Somerset, New Jersey	2,910	May 2019
Philadelphia, Pennsylvania	1,947	June 2017
London, England	11,825	March 2021 <sup>(3)</sup>
Paris, France	1,238	May 2022

(1) In March 2017, the Company entered into a sublease at this location.

(2) The Company is actively seeking a sublease tenant for a portion of this location.

(3) In March 2017, the Company entered into a sublease for approximately 2,100 square feet at this location.

## ITEM 3. LEGAL PROCEEDINGS

The Company may become involved in various legal and administrative actions arising in the normal course of business. These could include actions brought by taxing authorities challenging the employment status of consultants utilized by the Company. In addition, future customer bankruptcies could result in additional claims on collected balances for professional services near the bankruptcy filing date. The resolution of any of such actions, claims, or the matters described above may have an impact on the financial results for the period in which they occur.

## ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

## PART II

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

Our Common Stock is quoted on the NASDAQ Stock Market under the symbol CRTN. The high and low price per share for the Common Stock for the fiscal years ended December 31, 2016 and January 2, 2016, by quarter were as follows:

	High	Low
First quarter, fiscal year 2016	\$ 2.25	\$ 1.81
Second quarter, fiscal year 2016	\$ 2.11	\$ 0.93
Third quarter, fiscal year 2016	\$ 1.11	\$ 0.56
Fourth quarter, fiscal year 2016	\$ 1.08	\$ 0.50
	High	Low
First quarter, fiscal year 2015	\$ 4.45	\$ 3.09
Second quarter, fiscal year 2015	\$ 4.40	\$ 3.15
Third quarter, fiscal year 2015	\$ 3.50	\$ 2.02
Fourth quarter, fiscal year 2015	\$ 2.62	\$ 2.07

The above information reflects inter-dealer prices, without retail mark-up, markdown or commissions and may not necessarily represent actual transactions.

As of February 24, 2017, there were approximately 48 holders of record of our Common Stock.

Holders of Common Stock are entitled to receive ratably such dividends, if any, as may be declared by the Board of Directors out of funds legally available. To date, we have not paid any cash dividends on our Common Stock and do not expect to declare or pay any cash or other dividends in the foreseeable future.

During the fiscal year ended December 31, 2016, we did not sell any unregistered equity securities, except as previously disclosed in our Quarterly Reports on Form 10-Q and Current Reports on Form 8-K.

**(c) ISSUER PURCHASES OF EQUITY SECURITIES**

None.

**ITEM 6. *SELECTED FINANCIAL DATA***

Not applicable.

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

The following discussion should be read in conjunction with our Consolidated Financial Statements and Notes thereto included in this Annual Report on Form 10-K. Statements included in this discussion that are not statements of current or historical information may constitute forward-looking statements. Forward-looking statements include, but are not limited to, statements of plans and objectives, statements of future economic performance or financial projections, statements of assumptions underlying such statements, and statements of the Company's or management's intentions, hopes, beliefs, expectations or predictions of the future. Forward-looking statements can often be identified by the use of forward-looking terminology, such as "will be," "should," "could," "plan," "estimate," "intend," "continue," "believe," "may," "expect," "hope," "anticipate," "goal" or "forecast," variations thereof or similar expressions. Certain risks and uncertainties could cause actual results to differ materially from those reflected in such forward-looking statements. Factors that might cause a difference include, but are not limited to, our ability to generate sufficient cash flow from operations and obtain sufficient financing to pay the Elutions Note if called for redemption by Elutions, our ability to successfully implement the strategic relationship with Elutions, conditions in the industry sectors that we serve, including the slowing of client decisions on proposals and project opportunities along with scope reduction of existing projects, overall economic and business conditions, including business and economic conditions in the countries in which we operate, our ability to retain the limited number of large clients that constitute a major portion of our revenues, our ability to protect client or Cartesian data or information systems from security breaches and cyber-attacks, technological advances and competitive factors in the markets in which we compete, volatility in foreign exchange rates, and the factors described in "Risk Factors" in Item 1A of this report. Other factors that we have not identified in this document could also have this effect. All forward-looking statements made in this Annual Report on Form 10-K are made as of the date hereof. We will not necessarily update the information in this Annual Report on Form 10-K if any forward-looking statement later turns out to be inaccurate, except as may be required by law.

We report our financial data on a 52/53-week fiscal year for reporting purposes. Fiscal years 2016 and 2015 were each comprised of 52 weeks. For further discussion of our fiscal year-end, see Item 8, "Consolidated Financial Statements," Note 1, "Organization and Summary of Significant Accounting Policies," of the Notes to the Consolidated Financial Statements contained herein.

**OVERVIEW**

Included in Item 1, "Business" is discussion that includes a general overview of our Business, Market Overview, Business Strategy, Services and Competition. The purpose of this executive overview is to complement the discussion of the Business from Item 1.

Cartesian is among the leading providers of consulting services and managed solutions to the global leaders in the communications, digital media, and technology sectors. We offer a portfolio of strategy, management, marketing, operational, and technology consulting services. We have consulting experience with almost all major aspects of managing a global communications company. Our portfolio of solutions includes proprietary methodologies and toolsets, deep industry experience, and hands-on operational expertise.

Our global investments in targeting the cable industry have positioned our business to better serve consolidating telecommunications carriers and the converging global media and entertainment companies. The convergence of communications with media and entertainment, the pace of technological change in the sector, and the consolidation of large telecommunications carriers have required us to focus our strategy on serving our clients in both North America and European markets, continuing to expand our offerings with software and strengthening our position within the large carriers and media and entertainment companies. Subject to the effects of cyclical economic conditions, our efforts are helping us build what we believe is a more sustainable revenue model over the long-term, which will enable us to expand our global presence. We continue to focus our efforts on identifying, adapting to and capitalizing on the changing dynamics prevalent in the converging communications, media and entertainment industries, as well as providing our wireless and IP services within the communications sector.

In July 2015, we entered into a Share Purchase Agreement (the "Purchase Agreement") and completed the acquisition of all of the outstanding shares of capital stock of Farncombe France SARL and Farncombe Technology Limited (collectively, the "Farncombe Entities"). The Farncombe Entities operate primarily in the U.K. and Europe and are in the business of providing strategic consultancy, content security, testing and implementation services for broadcast and broadband internet digital television. The leaders and consultants of the Farncombe Entities are known experts in video, digital rights, content and security across multiple platforms, including broadcast, mobile and broadband networks. In addition to serving a complementary client base, the Farncombe Entities position Cartesian to support the growing digital TV needs of communications service providers. The Farncombe Entities provide cross-selling and upselling opportunities across our combined customer base, particularly in strategy and analytics. The global payTV market exceeds more than \$250 billion annually and continues to grow steadily. Convergence of content across digital media platforms is increasingly important in markets across the globe. Ensuring a high quality, seamless viewing experience along with the security of content is a requirement to compete effectively. Farncombe's experience in these areas along with Cartesian's strategic, operational and technical capabilities in serving global service providers strengthens the Company's ability to support convergence and quad play offerings in this growing market.

Strategic alliance partnerships are an element of our strategy. In 2014, we entered into a strategic alliance and Investment Agreement with Elutions, Inc. ("Elutions"), a provider of operational business intelligence solutions. With regard to the commercial relationship, Elutions is a provider of smart building and smart asset management solutions for energy management. Elutions uniquely combines technology and expertise to enable a machine-to-machine automated control and optimization of commercial and technical sites in a manner that can deliver significant energy savings with existing building infrastructure by optimizing use. Elutions' end-to-end solution includes web-enabled application software, wireless and wireline networking hardware, energy management bureau services and engineering and integration services. In the communications sector that we primarily serve, energy consumption is a large and often sub-optimized component of operating costs and an area that continues to escalate as service providers invest in areas like datacenters. In the partnership with Elutions, Cartesian may provide: lead generation to Elutions; sales and marketing support, program management and potentially prime certain transactions with our clients.

Our financial results are affected by macroeconomic conditions, industry conditions, credit market conditions, and the overall level of business confidence. Economic volatility has continued to impact our customer base and has resulted in continued higher levels of unemployment in certain markets, which may have impacted financial results of our customers.

The rate of change in the communications industry, driving convergence of media and telecommunications, consolidation of providers and expanded deployment of wireless capabilities have added both opportunity and uncertainty for our clients. Consolidation within the sector tends to result in increased consolidation of competitors. The supply chain divisions within larger clients, given sector consolidation, also tend to reduce the number of vendors utilized and to negotiate volume programs with select preferred vendors. This activity could result in further price reductions, fewer client projects, under-utilization of consultants, reduced operating margins and loss of market share. Declines in our revenues can have a significant impact on our financial results. Although we have a flexible cost base comprised primarily of employee and related costs, there is a lag in time required to scale the business appropriately if revenues are reduced. In addition, our future revenues and operating results may fluctuate from quarter to quarter based on the number, size and scope of projects in which we are engaged, the contractual terms and degree of completion of such projects, any delays incurred in connection with a project, consultant utilization rates, general economic conditions and other factors.

Revenues are driven by the ability of our team to secure new project contracts and deliver those projects in a way that adds value to our clients in terms of return on investment or assisting clients to address a need or implement change. Our sales strategy focuses on building long-term relationships with both new and existing clients. Strategic alliances with other companies are also used to sell services. The volume of work performed for specific clients may vary from period to period and a major client from one period may not use our services or the same volume of services in another period. In addition, clients generally may end their engagements with little or no penalty or notice. If a client consulting engagement ends earlier than expected, we must re-deploy professional service personnel as any resulting non-billable time could harm margins.

Cost of services consists primarily of compensation for consultants who are employees as well as fees paid to independent contractor organizations and related expense reimbursements. Employee compensation includes certain non-billable time, training, vacation time, benefits and payroll taxes. Gross margins are primarily impacted by the type of consulting services provided; the size of service contracts and negotiated discounts; changes in our pricing policies and those of competitors; utilization rates of consultants and independent subject matter experts; and employee and independent contractor costs, which tend to be higher in a competitive labor market.

Sales and marketing expenses consist primarily of personnel salaries, bonuses, and related costs for direct client sales efforts and marketing staff. We primarily use a relationship sales model in which partners, principals and senior consultants generate revenues. In addition, sales and marketing expenses include costs associated with marketing collateral, product development, trade shows and advertising. General and administrative expenses consist mainly of costs for accounting, recruiting and staffing, information technology, personnel, insurance, rent and outside professional services incurred in the normal course of business.

We are subject to a number of significant risks in the operation of our business, including operational, strategic, financial and regulatory risks. These include risks related to legal compliance, financial performance and condition, liquidity, concentration of credit, protection of our information technology networks and systems and intellectual property, counterparty credit and performance risk and other risks. Our Board of Directors has delegated to the Audit Committee, consisting solely of independent directors, the responsibility to oversee the assessment and management of the Company's risks, including reviewing management's risk assessment and risk management policies and procedures and steps management has taken to control material risk exposures. The Audit Committee is authorized to identify and discuss with management, the Board of Directors and the independent auditors the material risks faced by our business or which could impact our financial condition or performance, evaluate how those risks are managed and the quality and adequacy of our reporting with regard to them. Although we have processes and procedures to attempt to mitigate many of the risks that we face, there can be no assurance that such processes or procedures will be successful. For a discussion of certain risks relating to the Company, see Item 1A, "Risk Factors" and Part I, "Cautionary Statement Regarding Forward-Looking Information."

#### **CRITICAL ACCOUNTING POLICIES**

Our significant accounting policies are summarized in Note 1, "Organization and Summary of Significant Accounting Policies, in the Notes to the Consolidated Financial Statements included in Item 8 "Consolidated Financial Statements" of this report.

While the selection and application of any accounting policy may involve some level of subjective judgments and estimates, we believe the following accounting policies are the most critical to our consolidated financial statements, potentially involve the most subjective judgments in their selection and application, and are the most susceptible to uncertainties and changing conditions:

- Impairment of Goodwill and Long-lived Assets;
- Revenue Recognition;
- Fair Value Measurement;
- Accounting for Income Taxes;
- Research and Development and Software Development Costs;
- Inventory; and
- Share-based Compensation Expense.

*Impairment of Goodwill and Long-lived Assets - FASB ASC 350 "Intangibles-Goodwill and Other"* requires an evaluation of indefinite-lived intangible assets and goodwill annually and whenever events or circumstances indicate that such assets may be impaired. The first step of a goodwill impairment test is to compare the fair value of a reporting unit to its carrying value, including goodwill. The second step of the test, if necessary, compares the implied fair value of the reporting unit's goodwill with the carrying amount of that goodwill. If the carrying amount of the reporting unit's goodwill exceeds its implied fair value, an impairment charge is recognized in an amount equal to that excess. The loss recognized cannot exceed the carrying amount of goodwill. The evaluation is conducted at the reporting unit level. Based on the application of the income approach and market approach described below, we determined, during the second quarter of fiscal 2016, that the implied fair value of goodwill of each of the Company's reporting units was less than its respective carrying value, which resulted in the full impairment of all that goodwill. This determination is discussed more fully in Note 4, Goodwill and Intangible Assets in the Notes to the Consolidated Financial Statements included in Item 8, "Consolidated Financial Statements" of this report.

Fair value of our reporting units is determined using a combination of the income approach and the market approach. The income approach uses a reporting unit's projection of estimated cash flows discounted using a weighted-average cost of capital analysis that reflects current market conditions. We also consider the market approach to valuing our reporting units utilizing revenue and EBITDA multiples. We compare the results of our overall enterprise valuation as determined by the combination of the two approaches to our market capitalization.

The following describes the significant management judgments related to these approaches:

- *Anticipated future cash flows and terminal value for each reporting unit* - The income approach to determining fair value relies on the timing and estimates of future cash flows, including an estimate of terminal value. The projections use management's estimates of economic and market conditions over the projected period including growth rates in revenues and estimates of expected changes in operating margins. Our projections of future cash flows are subject to change as actual results are achieved that differ from those anticipated. Because management frequently updates its projections, we would expect to identify on a timely basis any significant differences between actual results and recent estimates.
- *Selection of an appropriate discount rate* - The income approach requires the selection of an appropriate discount rate, which is based on a weighted average cost of capital analysis. The discount rate is affected by changes in short-term interest rates and long-term yields as well as variances in the typical capital structure of marketplace participants. The discount rate is determined based on assumptions that would be used by marketplace participants, and for that reason, the capital structure of selected marketplace participants was used in the weighted average cost of capital analysis. It is possible that the discount rate can fluctuate from period to period.
- *Selection of an appropriate multiple* - The market approach requires the selection of an appropriate multiple to apply to revenues or EBITDA based on comparable guideline companies or transaction multiples. It is often difficult to identify companies or transactions with a similar profile in regards to revenue, geographic operations, risk profile and other factors.

Identifiable intangible assets, resulting from the acquisition of the Farcombe Entities, consist of customer relationships, agreements not to compete, and a trade name. We amortize the identifiable intangible assets over their estimated economic benefit period, from six months to four and one-half years. In accordance with FASB ASC 360, "Property, Plant and Equipment," we use our best estimates based upon reasonable and supportable assumptions and projections to review for impairment of long-lived assets to be held and used whenever events or changes in circumstances indicate that the carrying amount of our assets might not be recoverable. If we were to determine that events and circumstances warrant a change to the estimate of an identifiable intangible asset's remaining useful life, then the remaining carrying amount of the identifiable intangible asset would be amortized prospectively over that revised remaining useful life. Additionally, information resulting from other events and circumstances may indicate that the carrying value of one or more identifiable intangible assets is not recoverable which would result in recognition of an impairment charge.

A change in the estimate of the remaining life of one or more identifiable intangible assets or the impairment of one or more identifiable intangible assets could have a material impact on our results of operations and financial condition. Our identifiable intangible assets' carrying value, net of amortization, was approximately \$0.6 million as of December 31, 2016.

*Revenue Recognition* - We recognize revenues from time and materials consulting contracts in the period in which our services are performed. We recognized \$25.5 million and \$26.8 million in revenues from time and materials contracts during fiscal years 2016 and 2015, respectively. In addition to time and materials contracts, our other types of contracts include fixed fee contracts. We recognize revenues on milestone or deliverables-based fixed fee contracts and time and materials contracts not to exceed contract price using the percentage of completion-like method described by FASB ASC 605-35, "*Revenue Recognition - Construction-Type and Production-Type Contracts*". For fixed fee contracts where services are not based on providing deliverables or achieving milestones, we recognize revenues on a straight-line basis over the period during which such services are expected to be performed. During fiscal years 2016 and 2015, we recognized \$46.3 million and \$51.0 million, respectively, in revenues on fixed fee contracts. In connection with some fixed fee contracts, we receive payments from customers that exceed recognized revenues. We record the excess of receipts from customers over recognized revenue as deferred revenue. Deferred revenue is classified as a current liability to the extent it is expected to be earned within twelve months from the date of the balance sheet.

The FASB ASC 605-35 percentage-of-completion-like methodology involves recognizing revenue using the percentage of services completed, on a current cumulative cost to total cost basis, using a reasonably consistent profit margin over the period. Developing the estimates of costs often requires significant judgment. Factors that must be considered in estimating the progress of work completed and ultimate cost of the projects include, but are not limited to, the availability of labor and labor productivity, the nature and complexity of the work to be performed, and the impact of delayed performance. If changes occur in delivery, productivity or other factors used in developing the estimates of costs or revenues, we revise our cost and revenue estimates, which may result in increases or decreases in revenues and costs, and such revisions are reflected in income in the period in which the facts that give rise to that revision become known.

We also develop, install and support customer software in addition to our traditional consulting services. Although there was no revenue recognized related to software sales agreements for fiscal years 2016 or 2015, we also provide post-contract support ("PCS") services, including technical support and maintenance services as well as other professional services not essential to the functionality of the software. For those contracts that include PCS service arrangements which are not essential to the functionality of the software solution, we separate the FASB ASC 605-35 software services and PCS services utilizing the multiple-element arrangement model prescribed by FASB ASC 605-25, "*Revenue Recognition - Multiple-Element Arrangements*". FASB ASC 605-25 addresses the accounting treatment for an arrangement to provide the delivery or performance of multiple products and/or services where the delivery of a product or system or performance of services may occur at different points in time or over different periods of time. We utilize FASB ASC 605-25 to separate the PCS service elements and allocate total contract consideration to the contract elements based on the relative fair value of those elements utilizing PCS renewal terms as evidence of fair value. Revenues from PCS services are recognized ratably on a straight-line basis over the term of the support and maintenance agreement.

*Fair Value Measurement* - We utilize the methods of fair value measurement as described in FASB ASC 820, "*Fair Value Measurements*" to value our financial assets and liabilities including the financial instruments issued in the transaction described in Note 3, Strategic Alliance and Investment by Elutions, Inc. and the contingent consideration liability described in Note 2, Acquisition, in the Notes to the Consolidated Financial Statements, included in Item 8, "Consolidated Financial Statements", of this report. As defined in FASB ASC 820, fair value is based on the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In order to increase consistency and comparability in fair value measurements, FASB ASC 820 establishes a fair value hierarchy that prioritizes observable and unobservable inputs used to measure fair value into three broad levels, which are described below:

*Level 1:* Quoted prices (unadjusted) in active markets that are accessible at the measurement date for assets or liabilities. The fair value hierarchy gives the highest priority to Level 1 inputs.

*Level 2:* Observable prices that are based on inputs not quoted on active markets, but corroborated by market data.

*Level 3:* Unobservable inputs are used when little or no market data is available. The fair value hierarchy gives the lowest priority to Level 3 inputs.

In determining fair value, we utilize valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible as well as consider counterparty credit risk in our assessment of fair value.

*Accounting for Income Taxes* - Accounting for income taxes requires significant estimates and judgments on the part of management. Such estimates and judgments include, but are not limited to, the effective tax rate anticipated to apply to tax differences that are expected to reverse in the future, the sufficiency of taxable income in future periods to realize the benefits of net deferred tax assets and net operating losses currently recorded and the likelihood that tax positions taken in tax returns will be sustained on audit. We account for income taxes in accordance with FASB ASC 740 "Income Taxes". As required by FASB ASC 740, we record deferred tax assets or liabilities based on differences between financial reporting and tax basis of assets and liabilities using currently enacted rates that will be in effect when the differences are expected to reverse. FASB ASC 740 also requires that deferred tax assets be reduced by a valuation allowance if it is more likely than not that some portion or all of the deferred tax asset will not be realized. As of December 31, 2016, cumulative valuation allowances in the amount of \$36.6 million were recorded in connection with domestic and international net deferred income tax assets.

As required by FASB ASC 740, we have performed a comprehensive review of our portfolio of uncertain tax positions in accordance with recognition standards established by the guidance. Pursuant to FASB ASC 740, an uncertain tax position represents our expected treatment of a tax position taken in a filed tax return, or planned to be taken in a future tax return, that has not been reflected in measuring income tax expense for financial reporting purposes. As of December 31, 2016, we have no recorded liability for unrecognized tax benefits.

We have generated substantial deferred income tax assets related to our domestic operations, and to a lesser extent our international operations, primarily from the accelerated financial statement write-off of goodwill, the charge to compensation expense taken for stock options and net operating losses. Within our foreign operations, mostly domiciled within the United Kingdom, we have generated deferred tax assets primarily from the charge to compensation expense for stock options and operating losses. For us to realize the income tax benefit of these assets in the applicable jurisdiction, we must generate sufficient taxable income in future periods when such deductions are allowed for income tax purposes. In some cases where deferred taxes were the result of compensation expense recognized on stock options, our ability to realize the income tax benefit of these assets is also dependent on our share price increasing to a point where these options have intrinsic value at least equal to the grant date fair value and are exercised. In assessing whether a valuation allowance is needed in connection with our deferred income tax assets, we have evaluated our ability to generate sufficient taxable income in future periods to utilize the benefit of the deferred income tax assets. We continue to evaluate our ability to use recorded deferred income tax asset balances. If we continue to report operating losses for financial reporting in future years, no additional tax benefit would be recognized for those losses, since we will not have accumulated enough positive evidence to support our ability to utilize net operating loss carry-forwards in the future.

International operations have become a significant part of our business. As part of the process of preparing our financial statements, we are required to estimate our income taxes in each of the jurisdictions in which we operate. We utilize a "cost plus fixed margin" transfer pricing methodology as it relates to inter-company charges for headquarters support services performed by our domestic entities on behalf of various foreign affiliates. The judgments and estimates used are subject to challenge by domestic and foreign taxing authorities. It is possible that such authorities could challenge those judgments and estimates and draw conclusions that would cause us to incur liabilities in excess of those currently recorded. We use an estimate of our annual effective tax rate at each interim period based upon the facts and circumstances available at that time, while the actual annual effective tax rate is calculated at year-end. Changes in the geographical mix or estimated amount of annual pre-tax income could impact our overall effective tax rate.

*Research and Development and Software Development Costs* - Software development costs are accounted for in accordance with FASB ASC 985-20, "Software - Costs of Software to Be Sold, Leased, or Marketed" and FASB ASC 350-40, "Intangibles - Goodwill and Other - Internal-Use Software." Capitalization of software development costs for products that can be sold to third parties begins upon the establishment of technological feasibility and ceases when the product is available for general release. We capitalize development costs incurred during the period between the establishment of technological feasibility and the release of the final product to customers if such costs are material. In addition, we capitalize software development costs for internal use software that we do not intend to market to third parties but use to deliver services. The establishment of technological feasibility and the ongoing assessment of recoverability of capitalized software development costs require considerable judgment by management concerning certain external factors including, but not limited to, the date technological feasibility is reached, anticipated future gross revenue, estimated economic life and changes in software and hardware technologies. During fiscal years 2016 and 2015, approximately \$0.5 million and \$0.8 million, respectively, of these costs were expensed as incurred. During fiscal years 2016 and 2015, \$0.4 million and \$0.6 million, respectively, of internal use software development costs were capitalized.

*Inventory* – In accordance with the provisions of FASB ASC 330, “Inventory,” the Company’s inventory is stated at the lower of cost, using the first-in, first-out (FIFO) method, or fair value. As of December 31, 2016 and January 2, 2016, the Company had \$0.4 million and \$0.6 million in inventory, respectively, all of which was finished goods. All of the inventory was purchased in July 2014 from Elutions, Inc. (“Elutions”), which owns more than five percent of the outstanding shares of common stock of the Company. As provided for in the general framework agreement between the Company and Elutions (see Note 3, Strategic Alliance and Investment by Elutions, Inc. in the Notes to the Consolidated Financial Statements included in Item 8, “Consolidated Financial Statements”, of this report), if the Company had not sold 75% of such inventory acquired from Elutions within one year after acquisition, Elutions is required upon request of the Company to source its requirements for future projects in the U.S. or U.K. from such inventory subject to a 10% discount against the Company’s purchase price until the Company has exhausted such inventory. In fiscal 2015, the Company requested that Elutions source its requirements for future projects from the inventory that was acquired by the Company from Elutions in July 2014. Management expects to continue to work with Elutions to utilize the inventory but changes in management’s expectations in future periods as the matter is resolved could further impact the net realizable value of the inventory.

*Share-based Compensation Expense* We grant stock options and non-vested stock to our employees under stock incentive plans and also provide employees the right to purchase our stock at a discount pursuant to an employee stock purchase plan. The benefits provided under these plans are share-based payment awards subject to the provisions of FASB ASC 718, “*Compensation-Stock Compensation*.” Under FASB ASC 718, we are required to make significant estimates related to determining the value of our share-based compensation. If factors change and we develop different assumptions in the application of FASB ASC 718 in future periods, the compensation expense that we record under FASB ASC 718 may differ significantly from what we have recorded in the current period. There is a high degree of subjectivity involved when using option pricing models to estimate share-based compensation under FASB ASC 718. Changes in the subjective input assumptions can materially affect our estimates of fair values of our share-based compensation. Certain share-based payment awards, such as employee stock options, may expire worthless or otherwise result in zero intrinsic value as compared to the fair values originally estimated on the grant date and reported in our financial statements. Alternatively, values may be realized from these instruments that are significantly in excess of the fair values originally estimated on the grant date and reported in our financial statements. Although the fair value of employee share-based awards is determined in accordance with FASB ASC 718 and SEC’s Staff Accounting Bulletin (“SAB”) SAB No. 110 using an option pricing model, such value may not be indicative of the fair value observed in a willing buyer/willing seller market transaction.

For stock options with only a service-based vesting requirement, we calculate grant date fair value using the Black-Scholes valuation model. Our expected stock-price volatility assumption is based on historical volatilities of the underlying stock which are obtained from public data sources. The expected term of options granted is based on the simplified method in accordance with the SAB No. 110 as our historical share option exercise experience does not provide a reasonable basis for estimation. Expense for the awards ultimately expected to vest is recognized on a graded vesting schedule over the vesting period.

For stock options containing a market condition, the market conditions are required to be considered when calculating the grant date fair value. FASB ASC 718 requires us to select a valuation technique that best fits the circumstances of an award. In order to reflect the substantive characteristics of the market condition option award, a Monte Carlo simulation valuation model is used to calculate the grant date fair value of such stock options. Monte Carlo approaches are a class of computational algorithms that rely on repeated random sampling to compute their results. This approach allows the calculation of the value of such stock options based on a large number of possible stock price path scenarios. Expense for the market condition stock options is recognized over the derived service period as determined through the Monte Carlo simulation model.

For non-vested, service-based stock awards, compensation is recognized based on achievement of service conditions alone. The fair value of the awards is determined based on the market value of the underlying stock at the grant date. Expense for the awards ultimately expected to vest is recognized on a graded vesting schedule over the vesting period.

For non-vested, performance-based stock awards, compensation expense is recognized based on management’s expectations with regard to achievement of certain performance and service conditions. The fair value of the awards is determined based on the market value of the underlying stock at the grant date. Expense for the awards ultimately expected to vest is recognized on a straight-line basis over the implied service period of the award. There is a high degree of subjectivity involved when determining the number of awards which are expected to vest over the service period based on projections of the underlying performance measure. Changes in assumptions related to the achievement of the performance measure may materially affect the amount of expense recognized by the Company for performance-based non-vested stock.

See Note 5, Share-Based Compensation, in the Notes to the Consolidated Financial Statements included in Item 8, “Consolidated Financial Statements”, of this report.

## RECENT ACCOUNTING PRONOUNCEMENTS

See Note 1, Organization and Summary of Significant Accounting Policies, in the Notes to the Consolidated Financial Statements included in Item 8, "Consolidated Financial Statements", of this report.

## RESULTS OF OPERATIONS

### FISCAL 2016 COMPARED TO FISCAL 2015

#### REVENUES

Revenues decreased \$6.6 million, or 8.4%, to \$71.7 million for fiscal year 2016 from \$78.3 million for fiscal year 2015. This decrease was primarily due to the impact of a \$4.1 million unfavorable change in foreign currency translation rates applied to revenues in our EMEA segment (excluding the Famcombe Entities), the impact of a large customer engagement in North America during the second half of 2015 that was substantially completed as scheduled during the first half of fiscal 2016, and a lower volume of projects during fiscal 2016 in both our North America and EMEA segments. The decrease in revenues was partially offset by the acquisition of the Famcombe Entities acquired in July 2015. Excluding the Famcombe Entities, revenues in fiscal 2016 decreased \$13.0 million as compared to fiscal 2015. Our international revenues were approximately 59.1% of total revenues for fiscal 2016 as compared to 55.9% for fiscal 2015.

*North America Segment* - North America segment revenues decreased \$5.9 million, or 17.5%, to \$28.1 million for fiscal year 2016 from \$34.0 million for fiscal year 2015. This decrease was primarily due to a large customer engagement during the second half of 2015 that was substantially completed as scheduled during the first half of fiscal 2016 along with a lower volume of projects during fiscal 2016. During fiscal year 2016, this segment provided services on 122 customer projects, compared to 136 projects performed in fiscal year 2015. Average revenue per project was \$230,000 and \$250,000 for fiscal years 2016 and 2015, respectively. Revenues recognized in connection with fixed price engagements totaled \$22.7 million and \$28.0 million, representing 81.0% and 82.3% of total revenues of the segment, for the fiscal years 2016 and 2015, respectively.

*EMEA Segment* - EMEA segment revenues decreased 2.2% to \$42.9 million for fiscal year 2016 from \$43.8 million for fiscal year 2015. The decrease was primarily due to the impact of a \$4.1 million unfavorable foreign currency translation of the segment's functional currency to our reporting currency, the U.S. Dollar, as well as a decrease in the volume of business. The decrease in revenues was partially offset by the acquisition of the Famcombe Entities acquired in July 2015. Excluding the Famcombe Entities, revenues decreased \$7.3 million. During fiscal 2016 and 2015, this segment provided services on 429 and 407 customer projects (including the Famcombe Entities), respectively. Average revenue per project was approximately \$100,000 and \$102,000 for fiscal years 2016 and 2015, respectively. Revenues from post-contract software related support services were approximately \$0.8 million and \$0.9 million for fiscal years 2016 and 2015, respectively.

*Strategic Alliances Segment* - Strategic Alliances segment revenues were \$0.8 million and \$0.5 million for fiscal years 2016 and 2015, respectively.

#### COST OF SERVICES

Cost of services decreased \$5.5 million, or 10.5%, to \$47.1 million for fiscal year 2016 compared to \$52.6 million for fiscal year 2015, primarily due to lower revenues and the impact of the change in foreign currency exchange rates of approximately \$3.6 million, and a \$2.4 million inventory impairment recorded in fiscal year 2015. The acquisition of the Famcombe Entities accounted for a \$4.3 million increase in cost of services. Excluding the Famcombe Entities, cost of services decreased \$9.8 million or 18.7%. See Note 1, Organization and Summary of Significant Accounting Policies, in the Notes to the Consolidated Financial Statements, included in Item 8, "Consolidated Financial Statements", of this report for a discussion of the inventory adjustments. Our gross margin was 34.3% for fiscal year 2016, compared to 32.8% for fiscal year 2015. Excluding the inventory impairment in fiscal 2015, gross margin for fiscal 2015 would have been 35.9%.

*North America Segment* - Cost of services in the North America segment during fiscal years 2016 and 2015 were \$17.5 million and \$20.5 million, respectively. Our North America segment gross margin was 38.8% for fiscal 2016 compared to 39.8% for fiscal 2015. The decline in gross margin rate was primarily driven by project mix.

*EMEA Segment* - Cost of services in the EMEA segment were \$28.6 million and \$29.1 million during fiscal years 2016 and 2015, respectively. The acquisition of the Famcombe Entities accounted for a \$4.3 million increase in cost of services. The change in foreign currency exchange rates reduced cost of services by approximately \$3.6 million in fiscal 2016. Gross margin in our EMEA segment was 33.2% and 33.7% for fiscal years 2016 and 2015, respectively. The modest decline in gross margin rate within the EMEA segment was primarily due to project mix.

*Strategic Alliances Segment* - Cost of services was \$1.0 million and \$2.7 million for fiscal years 2016 and 2015, respectively. The decrease in cost of services was primarily due to expense of \$2.4 million related to the inventory impairment in fiscal year 2015. See Note 1, Organization and Summary of Significant Accounting Policies in the Notes to the Consolidated Financial Statements, included in Item 8, "Consolidated Financial Statements", of this report. Excluding the impact of the inventory impairments, gross margin for this segment would have been 10.7% and 24.2% in fiscal 2016 and 2015, respectively.

*Unallocated costs of services* - Unallocated costs of services, such as certain research and development costs, were \$0.3 million for each of the fiscal years 2016 and 2015, respectively.

#### **OPERATING EXPENSES**

Selling, general and administrative expenses decreased \$4.3 million, or 13.5% to \$27.6 million for fiscal year 2016, compared to \$31.9 million for fiscal year 2015. The decrease in selling, general and administrative expenses for fiscal year 2016 included a reduction of approximately \$1.7 million related to the change in foreign currency exchange rates. During fiscal year 2016 compared to fiscal year 2015, salaries and related expense decreased \$2.4 million, professional services and outside consultants expense decreased \$1.2 million, while severance expense increased \$0.2 million and bad debt expense increased \$0.2 million. The decrease in selling, general and administrative expenses also included a \$0.5 million favorable impact related to the change in the fair value of contingent consideration. As a percentage of revenues, our selling, general and administrative expenses were 38.5% and 40.7% for fiscal years 2016 and 2015, respectively.

#### **GOODWILL IMPAIRMENT**

As described above under "Critical Accounting Policies – Impairment of Goodwill and Long-lived Assets," we recorded a noncash goodwill impairment charge of \$10.8 million during the second quarter of fiscal 2016. The facts and circumstances that led to the impairment of goodwill were primarily a result of the decreased market value of the Company based upon the market price of our common stock.

#### **OTHER INCOME AND EXPENSE**

Other expense for fiscal years 2016 and 2015 was \$0.3 million and \$0.9 million, respectively. Other expense for both the 2016 and 2015 fiscal years included \$0.3 million and \$0.2 million of interest expense, respectively, primarily related to the Elutions Note issued to a subsidiary of Elutions. Fiscal 2016 also included \$18,000 of expense related to the change in fair value of the derivative liability embedded in the Elutions Note whereas this amount for fiscal 2015 was expense of \$0.6 million.

#### **INCOME TAXES**

During fiscal years 2016 and 2015 we recorded an income tax benefit of \$0.2 million and an income tax provision of \$0.6 million, respectively. The income tax benefit for fiscal 2016 was primarily related to a \$0.8 million domestic benefit recognized in connection with adjustments to domestic deferred taxes related to the impairment of goodwill amortized for income tax purposes but not for financial reporting purposes netted with a \$0.6 million international expense recognized in connection with the international valuation allowance in fiscal 2016. The income tax provision for fiscal year 2015 was primarily related to pre-tax book income within our U.K. operations as well as deferred taxes recognized on goodwill amortized for income tax purposes but not for financial reporting purposes. For fiscal years 2016 and 2015, we recorded no income tax benefit related to our pre-tax losses in accordance with the provisions of FASB ASC 740, "Income Taxes", which requires an estimation of our ability to use recorded deferred income tax assets. We currently have recorded a valuation allowance against domestic and international deferred income tax assets generated due to uncertainty about their ultimate realization as a result of our history of operating losses. If we continue to report net operating losses for financial reporting purposes, no additional tax benefit would be recognized for those losses, since we will not have accumulated enough positive evidence to support our ability to utilize the net operating loss carry-forwards in the future.

## STATEMENT REGARDING NON-GAAP FINANCIAL MEASUREMENT

In addition to loss from operations on a GAAP basis and net loss and net loss per share on a GAAP basis, our management uses the following non-GAAP financial measures, "Non-GAAP adjusted income (loss) from operations", "non-GAAP adjusted net loss," and "Constant Currency Revenues" in its evaluation of our performance, particularly when comparing performance to the prior fiscal year. These non-GAAP measures contain certain non-GAAP adjustments which are described in the following schedule entitled "Reconciliation of GAAP Loss from Operations to Non-GAAP Adjusted (Loss) Income from Operations and GAAP Net Loss to Non-GAAP Adjusted Net Loss" and "Reconciliation of Non-GAAP Constant Currency Revenues to GAAP Revenues." In making these non-GAAP adjustments, we take into account certain non-cash expenses and benefits, including tax effects as applicable, and the impact of certain items that are generally not expected to be on-going in nature or that are unrelated to our core operations. Management believes the exclusion of these items provides a useful basis for evaluating underlying business performance, but should not be considered in isolation and is not in accordance with, or a substitute for, evaluating our performance utilizing GAAP financial information. In calculating fiscal 2016 revenues on a constant currency basis, the Company applied average foreign exchange rates from fiscal 2015 to the Company's fiscal 2016 foreign-denominated revenues. We believe that providing such adjusted results allows investors and other users of our financial statements to better understand our comparative operating performance for the periods presented. Our non-GAAP measures may differ from similar measures by other companies, even if similar terms are used to identify such measures. Although management believes the non-GAAP financial measures are useful in evaluating the performance of our business, we acknowledge that items excluded from such measures have a material impact on our loss from operations and net loss and net loss per share calculated in accordance with GAAP. Therefore, management uses non-GAAP measures in conjunction with GAAP results. Investors and other users of our financial information should also consider the above factors when evaluating our results.

**CARTESIAN, INC.**  
**RECONCILIATION OF GAAP LOSS FROM OPERATIONS TO NON-GAAP ADJUSTED**  
**INCOME (LOSS) FROM OPERATIONS AND GAAP NET LOSS**  
**TO NON-GAAP ADJUSTED NET LOSS**

(unaudited)

(in thousands, except per share data)

	<b>Fifty-two Weeks Ended</b>	<b>Fifty-two Weeks Ended</b>
	December 31, 2016	January 2, 2016
<b>Reconciliation of GAAP loss from operations to non-GAAP adjusted income (loss) from operations:</b>		
GAAP loss from operations	\$ (13,826)	\$ (6,206)
Depreciation	994	952
Amortization of intangible assets	301	208
Non-cash share based compensation expense	302	372
Goodwill impairment	10,830	—
Fair value adjustment to contingent consideration	(273)	255
Inventory adjustment	264	2,375
Accrued executive severance and related costs	1,012	821
Lease expense for discontinuation of office space	(39)	334
Acquisition-related expenses	—	697
Foreign currency exchange loss on note payable	592	171
Adjustments to GAAP loss from operations	13,983	6,185
Non-GAAP adjusted income (loss) from operations	\$ 157	\$ (21)
<b>Reconciliation of GAAP net loss to non-GAAP adjusted net loss:</b>		
GAAP net loss	\$ (13,883)	\$ (7,691)
Depreciation	994	952
Amortization of intangible assets	301	208
Non-cash share based compensation expense	302	372
Goodwill impairment	10,830	—
Fair value adjustment to contingent consideration	(273)	255
Inventory adjustment	264	2,375
Accrued executive severance and related costs	1,012	821
Lease expense for discontinuation of office space	(39)	334
Acquisition-related expenses	—	697
Change in fair value of derivative liabilities	18	615
Foreign currency exchange loss on note payable	592	171
Incentive warrants expense	53	63
Tax effect of applicable non-GAAP adjustments (1)	(934)	(42)
Adjustments to GAAP net loss	13,120	6,821
Non-GAAP adjusted net loss	\$ (763)	\$ (870)

	<b>Fifty-two Weeks Ended</b>	<b>Fifty-two Weeks Ended</b>
	December 31, 2016	January 2, 2016
<b>Reconciliation of GAAP net loss per diluted common share to non-GAAP adjusted net loss per diluted common share:</b>		
GAAP net loss per diluted common share	\$ (1.61)	\$ (0.91)
Depreciation	0.12	0.11
Amortization of intangible assets	0.03	0.03
Non-cash share based compensation expense	0.03	0.04
Goodwill impairment	1.25	—
Fair value adjustment to contingent consideration	(0.03)	0.03
Inventory adjustment	0.03	0.28
Accrued executive severance and related costs	0.12	0.10
Lease expense for discontinuation of office space	—	0.04
Acquisition-related expenses	—	0.08
Change in fair value of derivative liabilities	—	0.07
Foreign currency exchange loss on note payable	0.07	0.02
Incentive warrants expense	0.01	0.01
Tax effect of applicable non-GAAP adjustments (1)	(0.11)	—
Adjustments to GAAP net loss per diluted common share	<u>1.52</u>	<u>0.81</u>
Non-GAAP adjusted net loss per diluted common share	<u>\$ (0.09)</u>	<u>\$ (0.10)</u>
Weighted average shares used in calculation of Non-GAAP adjusted net loss per diluted common share	<u>8,639</u>	<u>8,413</u>

(1) The Company calculated the tax effect of non-GAAP adjustments by applying an applicable estimated jurisdictional tax rate to each specific non-GAAP item after consideration of the Company's valuation allowance.

**CARTESIAN, INC.**  
**RECONCILIATION OF GAAP REVENUES**  
**TO NON-GAAP CONSTANT CURRENCY REVENUES**  
(unaudited)  
(in thousands, except growth rates)

	<b>Fifty-two Weeks Ended</b>	<b>Fifty-two Weeks Ended</b>	
	December 31, 2016	January 2, 2016	Year-Over-Year Growth
<b>Non-GAAP Constant Currency Revenues Reconciliation (1),(2)</b>			
GAAP revenues, as reported	\$ 71,739	\$ 78,344	(8.4)%
Foreign currency exchange impact on 2016 revenues using 2015 average rates (2)	4,052		
Non-GAAP revenues, at constant currency	<u>\$ 75,791</u>	<u>\$ 78,344</u>	<u>(3.3)%</u>

(1) Non-GAAP revenues on a constant currency basis are calculated by applying the average foreign exchange rates for the fifty-two weeks ended January 2, 2016 to foreign-denominated revenues in the comparable current year period. The difference between non-GAAP revenues and revenues calculated in accordance with GAAP is shown as "foreign currency exchange impact" in the table above. Non-GAAP constant currency revenue growth (expressed as a percentage) is calculated by determining the increase in non-GAAP constant currency revenues in fiscal 2016 compared to GAAP revenues for the prior fiscal year.

(2) The calculation of the foreign currency exchange impact on our fiscal 2016 revenues is exclusive of the impact of the Farncombe acquisition on July 22, 2015. Revenues for the Farncombe entities are included in our GAAP revenues as reported for fiscal year 2016 and for fiscal year 2015 from the date of acquisition through January 2, 2016.

**LIQUIDITY AND CAPITAL RESOURCES**

During fiscal year 2016, our operating activities used cash of \$2.4 million. The net cash used by operating activities included a net loss of \$13.9 million, partially offset by \$12.5 million of non-cash expenses and changes in working capital, which used approximately \$1.0 million. Working capital changes included a decrease in accounts payable of \$1.2 million and a decrease in other accrued liabilities of \$0.9 million, which were partially offset by a decrease in accounts receivable of \$0.7 million related to the timing of collections, including accounts receivable transferred under our agreements with third-party financial institutions.

During fiscal year 2015, our operating activities used cash of \$2.7 million. The net cash used by operating activities included a net loss of \$7.7 million, partially offset by \$5.2 million of non-cash expenses. In addition, changes in working capital accounted for \$0.2 million in cash flows from operations. Working capital changes included a decrease in accounts receivable of \$0.9 million due to the timing of collections, including accounts receivable transferred under our agreements with third-party financial institutions, a \$1.7 million decrease in the accrued severance liability and related costs which were funded during the current year and an increase in other accrued liabilities of \$0.8 million.

Net cash used in investing activities was \$1.0 million and \$2.7 million for fiscal years 2016 and 2015, respectively. The 2016 and 2015 fiscal periods included cash used of \$0.3 million and \$1.7 million, respectively, related to the acquisition of the Farncombe Entities which reflects cash paid during fiscal 2016 and 2015 for the business, net of cash acquired in the acquisition. Fiscal 2016 and 2015 also included \$0.7 million and \$1.0 million, respectively, of cash used for the purchase of office equipment, software and computer equipment.

Net cash provided by financing activities was \$0.7 million for fiscal year 2016 while net cash used in financing activities in fiscal year 2015 was \$0.6 million. Cash provided by financing activities for fiscal year 2016 primarily related to cash received under the accounts receivable factoring agreement with a third-party financial institution. For further discussion of the factoring agreement, see below and Note 1, Organization and Summary of Significant Accounting Policies, in the Notes to the Consolidated Financial Statements included in Item 8, "Consolidated Financial Statements", of this report. During fiscal 2016 we used \$0.1 million to repurchase shares under a put option agreement with a former executive. Net cash used in financing activities during fiscal 2015 related primarily to repurchases of common stock under the share repurchase program and shares repurchased under a put option agreement with a former executive. These cash outflows were partially offset by purchases of stock by employees under the employee stock purchase plan.

At December 31, 2016, we had approximately \$4.1 million in cash and cash equivalents and \$4.0 million in net working capital. At December 31, 2016, \$1.9 million and \$0.7 million of our cash and cash equivalents were denominated in British pounds sterling and Euros, respectively, which we would be able to repatriate, if needed, without any negative U.S. income tax consequences. Our cash resources and cash flows from operations have been sufficient to pay our obligations and debts as they become due. However, our current capital resources may not be sufficient to repay the Elutions Note described below in an aggregate original principal amount of \$3.3 million, if it were to be called for redemption, and to fund our operations going forward. The Elutions Note matures on March 18, 2019, but may be called for redemption by the holder at any time and is payable 30 days after it is called for redemption. In addition, as described below, we are obligated to pay the earn-out consideration that is potentially payable in connection with the acquisition of the Farncombe Entities in 2015. We are not in default under the Elutions Note and do not have any reason to currently expect that the Elutions Note will be called for redemption, given that (i) we are paying our debts as they become due (including making timely payments of interest on the Elutions Note), (ii) a call by the holder of the Elutions Note for redemption would cause Elutions to no longer have the right to purchase shares of stock pursuant to the Tracking Warrant and (iii) Elutions is a significant stockholder of the Company and a call by the holder of the Elutions Note for redemption may adversely affect the value of Elution's other equity holdings in the Company. Under the Tracking Warrant, Elutions has the right to purchase up to 996,544 shares of common stock of the Company for \$3.28 per share. The Tracking Warrant expires March 18, 2020. Although we do not have any reason to currently expect that the Elutions Note will be called for redemption, any determination by the holder of the Elutions Note is outside of our control.

As described below, we have entered into receivable financing and factoring arrangements with respect to certain accounts receivable, provided that our ability to finance receivables is subject to limitations, including in certain arrangements the willingness of the purchaser to purchase individual accounts receivable that are offered by us. If the Elutions Note is called by the holder or if we realize significant negative cash flows from operations, we will be required to seek additional debt or equity financing. As further described below, Elutions has certain rights of first offer in connection with debt financings by us, subject to certain exceptions. In addition, if we obtain debt financing from other lenders, subject to certain exceptions, Elutions may require us to redeem the Elutions Note and to repurchase the shares of our common stock originally acquired by Elutions at a price based upon market prices over 15 trading days prior to the repurchase. In addition, Elutions has certain preemptive rights in connection with equity issuances by us, subject to certain exceptions, and we and our subsidiaries may not, without the prior written consent of Elutions, issue options, warrants or similar rights or convertible securities, other than with respect to certain excluded issuances.

In the fourth quarter of 2016, the Company adopted Accounting Standards Update 2014-15, Presentation of Financial Statements - Going Concern, that requires management to assess conditions or events that raise substantial doubt about an entity's ability to continue as a going concern within one year after the financial statements are issued. Management has concluded under ASU 2014-15 that there is substantial doubt about the Company's ability to continue as a going concern if the Company is unable to arrange financing sufficient to pay off the Elutions Note upon a call for redemption. We are exploring alternatives to address our liquidity needs in the event the Elutions Note is called for redemption. We currently expect that such financing can be obtained if necessary. However, there can be no assurance that financing will be available in amounts or on terms acceptable to us, if at all. Our ability to secure new financing may be impacted by economic and financial market conditions. If financing is obtained through the sale of additional equity securities or debt securities with equity features, it could result in dilution to our stockholders. If adequate funds were not available on acceptable terms, our business, results of operations, cash flows, and financial condition could be materially adversely affected.

We have entered into agreements with third-party financial institutions under which we can selectively elect to transfer to the financial institutions accounts receivables with certain of our largest customers on a non-recourse basis. These agreements give us optionality to convert outstanding accounts receivable to cash at what we believe is a reasonable discount rate. During fiscal years 2016 and 2015, \$19.6 million and \$26.8 million, respectively, in accounts receivable was transferred pursuant to these agreements.

In addition, on April 22, 2016, we entered into an agreement with RTS Financial Service, Inc. ("RTS") under which we may offer for sale, and RTS may purchase, certain accounts receivable of the Company on an account by account basis with recourse. Our obligations under the agreement with RTS are secured by all present and future accounts receivable and related assets, equipment and inventory of the Company, other than to the extent such assets are pledged pursuant to certain existing agreements of the Company and other than assets of the Company's subsidiaries. The Company subsequently amended the Factoring Agreement to add certain North American subsidiaries of the Company to the Factoring Agreement. This agreement provides us with additional ability to convert outstanding accounts receivable to cash, subject to the willingness of RTS to purchase individual accounts receivable. During fiscal year 2016, the Company factored \$3.0 million of accounts receivable under the Factoring Agreement which is included in Secured borrowing on the Consolidated Balance Sheets. See Note 1, Organization and Summary of Significant Accounting Policies, in the Notes to the Consolidated Financial Statements included in Item 8, "Consolidated Financial Statements", of this report.

On July 29, 2016, Cartesian Limited, a U.K. subsidiary of Cartesian, Inc., entered into an Invoice Discounting Agreement, a Debenture (security agreement) and certain related agreements with RBS Invoice Finance Limited ("RBS"). Pursuant to the terms of the agreements, Cartesian Limited may assign to RBS Invoice Finance Limited certain eligible accounts receivable of Cartesian Limited. No amounts were factored under the Agreement during fiscal year 2016. As of December 31, 2016, approximately \$3.3 million of accounts receivable were available for factoring under the RBS agreement. See Note 1, Organization and Summary of Significant Accounting Policies, in the Notes to the Consolidated Financial Statements included in Item 8, "Consolidated Financial Statements", of this report.

During 2014 we entered into an Investment Agreement with Elutions, a provider of operational business intelligence solutions. Under the Investment Agreement, among other things, we agreed to issue and sell shares of common stock to Elutions and the parties agreed that a subsidiary of Elutions would loan funds to a subsidiary of Cartesian. On March 18, 2014, Cartesian and Elutions completed the closing of the transactions contemplated under the Investment Agreement and our subsidiary, Cartesian Limited, issued the Elutions Note, a non-convertible promissory note payable to Elutions Capital Ventures S.à r.l, a subsidiary of Elutions, in an aggregate original principal amount of \$3.3 million. The Elutions Note bears interest at the rate of 7.825% per year, payable monthly, and matures on March 18, 2019. The Elutions Note may be called by the holder at any time. Under the Investment Agreement, Elutions has a right of first offer to loan funds to us if we intend to incur indebtedness and preemptive rights with respect to certain issuances of our equity securities, subject in each case to certain exceptions. In addition, in the event that we incur or assume certain indebtedness with a lender other than Elutions that is senior to or pari passu with the Elutions Note issued to a subsidiary of Elutions in March 2014, Elutions may require us to purchase the shares of our common stock originally acquired by Elutions at a price based upon then-current market prices. In addition, under the Investment Agreement, we may not, without the prior written consent of Elutions, issue options, warrants or similar rights or convertible securities, other than with respect to certain excluded issuances. See Note 3, Strategic Alliance and Investment by Elutions, Inc., in the Notes to the Consolidated Financial Statements included in Item 8, "Consolidated Financial Statements" of this report.

#### FINANCIAL COMMITMENTS

As described in our discussion of liquidity and capital resources above, and in the Notes to the Consolidated Financial Statements, included in Item 8, "Consolidated Financial Statements", of this report, on March 18, 2014 our subsidiary, Cartesian Limited, issued the Elutions Note, a non-convertible promissory note in the amount of \$3.3 million as part of the Investment Agreement with Elutions. The promissory note may be called by the holder at any time and may be prepaid by Cartesian Limited at any time after September 18, 2016. The obligations of Cartesian Limited under the Note are guaranteed by the Company pursuant to a Guaranty entered into by the Company at Closing and are secured by certain assets relating to client contracts involving Elutions pursuant to a Security Agreement entered into by the Company and Elutions. Upon occurrence of an event of default, the Note would bear interest at 9.825% per year and could be declared immediately due and payable.

In connection with the acquisition of the Famcombe Entities as described in the Notes to the Consolidated Financial Statements, included in Item 8, "Consolidated Financial Statements", of this report, the total purchase price includes earn-out consideration which is potentially payable in cash and/or shares of Company common stock as elected by each Seller in the Share Purchase Agreement. The earn-out consideration that is potentially payable represents 40% of the notional purchase price of the Famcombe Entities and may be up to £719,483 pounds sterling (approximately US\$0.9 million based on an exchange rate of £1.000 = US\$1.234 as of December 31, 2016) and up to 461,055 shares of Company common stock (approximately £1,024,765 pounds sterling or US\$1.3 million based on an exchange rate of £1.000 = US\$1.234 as of December 31, 2016).

#### ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not applicable.

**ITEM 8. CONSOLIDATED FINANCIAL STATEMENTS**

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

Board of Directors and Shareholders  
Cartesian, Inc.

We have audited the accompanying consolidated balance sheet of Cartesian, Inc. and subsidiaries (the "Company") as of December 31, 2016 and the related consolidated statements of operations and comprehensive loss, cash flows, and stockholders' equity for the fifty-two weeks ended December 31, 2016. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. We were not engaged to perform an audit of the Company's internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Cartesian, Inc. and subsidiaries as of December 31, 2016 and the result of their operations and their cash flows for the fifty-two weeks ended December 31, 2016 in conformity with accounting principles generally accepted in the United States of America.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. The Company has suffered recurring losses from operations, has continued to use cash in operating activities and as discussed in Note 1 to the consolidated financial statements, has a note payable of approximately \$3.3 million that may be called for redemption by the holder without specific cash resources to meet this obligation. These conditions, along with other matters as set forth in Note 1, raise substantial doubt about the Company's ability to continue as a going concern. Management's plans in regards to these matters are also described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ GRANT THORNTON LLP

Kansas City, Missouri

March 31, 2017

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Stockholders of  
Cartesian, Inc.  
Overland Park, Kansas

We have audited the accompanying consolidated balance sheet of Cartesian, Inc. and subsidiaries (the "Company") as of January 2, 2016, and the related consolidated statements of operations and comprehensive loss, stockholders' equity, and cash flows for the 52-week period ended January 2, 2016. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of Cartesian, Inc. and subsidiaries as of January 2, 2016, and the results of their operations and their cash flows for the 52-week period ended January 2, 2016, in conformity with accounting principles generally accepted in the United States of America.

We have not audited any financial statements of the Company for any period subsequent to January 2, 2016, nor have we performed a review of interim financial statements for any periods subsequent to April 2, 2016 in conformity with the standards of the Public Company Accounting Oversight Board (United States). However, as discussed in Note 1 to the financial statements, the Company's liquidity needs raises substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are also discussed in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ DELOITTE & TOUCHE LLP

Kansas City, Missouri

April 1, 2016  
(March 31, 2017 as to Note 1)

**CARTESIAN, INC.**  
**CONSOLIDATED BALANCE SHEETS**

	<u>December 31, 2016</u>	<u>January 2, 2016</u>
	<u>(In thousands, except share data)</u>	
<b>ASSETS</b>		
<b>CURRENT ASSETS:</b>		
Cash and cash equivalents	\$ 4,131	\$ 6,879
Receivables:		
Accounts receivable – billed and unbilled	14,078	16,805
Less: Allowance for doubtful accounts	(398)	(249)
Net receivables	<u>13,680</u>	<u>16,556</u>
Inventory, net	362	625
Prepaid and other current assets	1,591	1,754
Total current assets	<u>19,764</u>	<u>25,814</u>
<b>NONCURRENT ASSETS:</b>		
Property and equipment, net	2,056	2,511
Goodwill	—	11,071
Intangible assets, net	557	996
Deferred income tax assets	—	509
Other noncurrent assets	324	458
Total Assets	<u>\$ 22,701</u>	<u>\$ 41,359</u>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
<b>CURRENT LIABILITIES:</b>		
Trade accounts payable	\$ 1,704	\$ 3,253
Current borrowings	3,269	3,269
Liability for derivatives	970	952
Accrued payroll, bonuses and related expenses	3,752	5,125
Contingent consideration liability	1,903	—
Deferred revenue	1,327	1,551
Secured borrowing	768	—
Other accrued liabilities	2,117	2,251
Total current liabilities	<u>15,810</u>	<u>16,401</u>
<b>NONCURRENT LIABILITIES:</b>		
Deferred income tax liabilities	—	780
Deferred revenue	471	407
Contingent consideration liability	—	2,176
Other noncurrent liabilities	588	952
Total noncurrent liabilities	<u>1,059</u>	<u>4,315</u>
<b>COMMITMENTS AND CONTINGENCIES (Note 13)</b>		
<b>STOCKHOLDERS' EQUITY:</b>		
<b>Common stock:</b>		
Voting — \$.005 par value, 20,000,000 shares authorized; 9,659,628 (including 673,703 treasury shares) and 9,547,672 (including 654,766 treasury shares) shares issued as of December 31, 2016 and January 2, 2016, respectively; 8,985,925 and 8,892,906 shares outstanding as of December 31, 2016 and January 2, 2016, respectively	50	49
Preferred stock — \$.001 par value, 2,000,000 shares authorized; no shares issued or outstanding		
Additional paid-in capital	184,754	184,277
Accumulated deficit	(167,781)	(153,898)
Treasury stock, at cost	(4,409)	(4,324)
Accumulated other comprehensive income —		
Foreign currency translation adjustment	(6,782)	(5,461)
Total stockholders' equity	<u>5,832</u>	<u>20,643</u>
Total Liabilities and Stockholders' Equity	<u>\$ 22,701</u>	<u>\$ 41,359</u>

See notes to consolidated financial statements.



CARTESIAN, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

	Fifty-Two Weeks Ended December 31, 2016	Fifty-Two Weeks Ended January 2, 2016
	(in thousands, except share data)	
Revenues	\$ 71,739	\$ 78,344
Cost of services	46,842	50,252
Inventory impairment	264	2,375
Gross Profit	24,633	25,717
Selling, general and administrative expenses (includes non-cash share-based compensation expense of \$302 and \$372, respectively)	27,629	31,923
Goodwill impairment	10,830	—
Loss from operations	(13,826)	(6,206)
Other (expense) income:		
Interest (expense) income, net	(264)	(228)
Change in fair value of warrants and derivative liabilities	(18)	(615)
Incentive warrants expense	(53)	(63)
Other income	30	7
Total other (expense) income	(305)	(899)
Loss before income taxes	(14,131)	(7,105)
Income tax benefit (provision)	248	(586)
Net loss	(13,883)	(7,691)
Other comprehensive loss:		
Foreign currency translation adjustment	(1,321)	(866)
Comprehensive loss	\$ (15,204)	\$ (8,557)
Net loss per common share		
Basic and diluted	\$ (1.61)	\$ (0.91)
Weighted average shares used in calculation of net loss per common share		
Basic and diluted	8,639	8,413

See notes to consolidated financial statements.

**CARTESIAN, INC.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

	<u>Fifty-Two Weeks Ended</u> <u>December 31, 2016</u>	<u>Fifty-Two Weeks Ended</u> <u>January 2, 2016</u>
	(in thousands)	
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>		
Net loss	\$ (13,883)	\$ (7,691)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	994	952
Amortization of intangible assets	301	208
Share-based compensation expense	302	372
Deferred tax expense (benefit)	(285)	324
Goodwill impairment	10,830	—
Inventory impairment	264	2,375
Change in fair value of warrants and derivative liabilities	18	615
Fair value adjustment to contingent consideration	(273)	255
Bad debt expense	327	140
Incentive warrants expense	53	63
Other	—	(64)
Other changes in operating assets and liabilities (net of effects of acquisition):		
Accounts receivable	727	943
Prepaid and other assets	122	(204)
Trade accounts payable	(1,163)	(328)
Deferred revenue	57	295
Inventory	—	—
Accrued severance liability and related costs	117	(1,694)
Accrued liabilities	(863)	781
Net cash used in operating activities	<u>(2,355)</u>	<u>(2,658)</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>		
Business acquisition, net of cash acquired	(295)	(1,747)
Acquisition of property and equipment	(716)	(1,006)
Net cash used in investing activities	<u>(1,011)</u>	<u>(2,753)</u>
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>		
Secured borrowing	768	—
Repurchase of common stock	—	(263)
Put option exercise	(85)	(405)
Issuance of common stock	21	82
Net cash provided by (used in) financing activities	<u>704</u>	<u>(586)</u>
Effect of exchange rate on cash and cash equivalents	(86)	(123)
Net decrease in cash and cash equivalents	<u>(2,748)</u>	<u>(6,120)</u>
Cash and cash equivalents, beginning of period	6,879	12,999
Cash and cash equivalents, end of period	<u>\$ 4,131</u>	<u>\$ 6,879</u>
<b>Supplemental disclosure of cash flow information:</b>		
Cash paid during the period for interest	\$ 278	\$ 256
Cash paid during the period for taxes	\$ 273	\$ 48
<b>Non-cash investing and financing transactions:</b>		
Change in fair value of warrants and derivative liabilities	\$ 18	\$ 615
Accrued property and equipment additions	\$ 136	\$ 320
Contingent consideration liability	\$ —	\$ 2,176
Accrued acquisition consideration	\$ —	\$ 327
Shares issued for business acquisition	\$ —	\$ 2,036

See notes to consolidated financial statements.



**CARTESIAN, INC.**  
**CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY**

	Common Stock \$ .005 Par Voting		Additional Paid In Capital	Accumulated Deficit	Treasury Stock	Accumulated Other Comprehensive Income	Total
	Shares	Amount					
(In thousands, except share data)							
<b>Balance, January 3, 2015</b>	9,259,562	\$ 46	\$ 181,829	\$ (146,207)	\$ (3,656)	\$ (4,595)	\$ 27,417
Stock option exercises	2,467						—
Shares issued for employee stock purchase plan	36,765		82				82
Non-vested stock grants	58,940						—
Non-vested stock forfeitures	(398,629)						—
Purchases of treasury stock					(263)		(263)
Share-based compensation expense			372				372
Shares issued in connection with business acquisition	588,567	3	2,033				2,036
Incentive warrants vested			63				63
Put option issued			(507)				(507)
Put option exercised			405		(405)		—
Other comprehensive income — Foreign currency translation adjustment						(866)	(866)
Net loss				(7,691)			(7,691)
<b>Balance, January 2, 2016</b>	9,547,672	\$ 49	\$ 184,277	\$ (153,898)	\$ (4,324)	\$ (5,461)	\$ 20,643
Shares issued for employee stock purchase plan	17,092		21				21
Non-vested stock grants	172,422	1	(1)				—
Non-vested stock forfeitures	(77,558)						—
Purchases of treasury stock							—
Share-based compensation expense			302				302
Incentive warrants vested			53				53
Put option forfeited			17				17
Put option exercised			85		(85)		—
Other comprehensive income — Foreign currency translation adjustment						(1,321)	(1,321)
Net loss				(13,883)			(13,883)
<b>Balance, December 31, 2016</b>	9,659,628	\$ 50	\$ 184,754	\$ (167,781)	\$ (4,409)	\$ (6,782)	\$ 5,832

See notes to consolidated financial statements.

## CARTESIAN, INC.

### NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

#### 1. ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

*Nature of Operations* – Cartesian, Inc. (“Cartesian” or the “Company”), formerly known as The Management Network Group, Inc., was founded in 1990 as a management consulting firm specializing in providing consulting services to the converging communications industry and the financial services firms that support it. A majority of the Company's revenues are from customers in the United States, United Kingdom, and Western Europe. Cartesian's corporate offices are located in Overland Park, Kansas.

*Going Concern* - The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business for the twelve-month period following the date of these consolidated financial statements.

The Company's cash resources and cash flows from operations have been sufficient to pay its obligations and debts as they become due. However, the Company's current capital resources may not be sufficient to repay a promissory note payable to Elutions Capital Ventures S.à r.l, a subsidiary of Elutions, in an aggregate original principal amount of \$3.3 million (“Elutions Note”), if it were to be called for redemption, and to fund the Company's operations going forward. The Elutions Note matures on March 18, 2019, but may be called for redemption by the holder at any time and is payable 30 days after it is called for redemption. In addition, Cartesian is obligated to pay the earn-out consideration that is potentially payable in connection with the acquisition of the Farncombe Entities in 2015. The earn-out consideration that is potentially payable represents 40% of the notional purchase price of the Farncombe Entities and may be up to £719,483 pounds sterling (approximately US\$0.9 million based on an exchange rate of £1.000 = US\$1.234 as of December 31, 2016) and up to 461,055 shares of Company common stock (approximately £1,024,765 pounds sterling or US\$1.3 million based on an exchange rate of £1.000= US\$1.234 as of December 31, 2016). The Company is not in default under the Elutions Note and does not have any reason to currently expect that the Elutions Note will be called for redemption, given that the Company is paying its debts as they become due (including making timely payments of interest on the Elutions Note), and a call by the holder of the Elutions Note would cause Elutions to no longer have the right to purchase shares of stock pursuant to the Tracking Warrant if the Elutions Note is called for redemption. Under the Tracking Warrant, Elutions has the right to purchase up to 996,544 shares of common stock of the Company for \$3.28 per share. The Tracking Warrant expires March 18, 2020. See Note 2, Acquisition and Note 3, Strategic Alliance and Investment by Elutions, Inc., for additional discussion related to the Earn-out and the Elutions Note, respectively.

The Company has entered into receivable financing and factoring arrangements with respect to certain accounts receivable, provided that the ability to finance receivables is subject to limitations, including in certain arrangements the willingness of the purchaser to purchase individual accounts receivable that are offered by the Company. If the Elutions Note is called for redemption by the holder or if the Company realizes significant negative cash flows from operations, it will be required to seek additional debt or equity financing. Elutions has certain rights of first offer in connection with debt financings by us, subject to certain exceptions. In addition, if we obtain debt financing from other lenders, subject to certain exceptions, Elutions may require us to redeem the Elutions Note and to repurchase the shares of our common stock originally acquired by Elutions at a price based upon market prices over 15 trading days prior to the repurchase. In addition, Elutions has certain preemptive rights in connection with equity issuances by the Company, subject to certain exceptions, and Cartesian and its subsidiaries may not, without the prior written consent of Elutions, issue options, warrants or similar rights or convertible securities, other than with respect to certain excluded issuances.

The Company is exploring alternatives to address its liquidity needs in the event the Elutions Note is called for redemption. However, there can be no assurance that financing will be available in amounts or on terms acceptable to the Company, if at all. The Company's ability to secure new financing may be impacted by economic and financial market conditions. If financing is obtained through the sale of additional equity securities or debt securities with equity features, it could result in dilution to the Company's stockholders. If adequate funds were not available on acceptable terms, our business, results of operations, cash flows, and financial condition could be materially adversely affected.

The consolidated financial statements have been prepared assuming the Company will continue to operate as a going concern, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. In the fourth quarter of 2016, the Company adopted Accounting Standards Update 2014-15, Presentation of Financial Statements - Going Concern that requires management to assess conditions or events that raise substantial doubt about an entity's ability to continue as a going concern within one year after the financial statements are issued. Management has concluded under ASU 2014-15 that there is substantial doubt about the Company's ability to continue as a going concern if the Company is unable to arrange financing sufficient to pay off the Elutions Note upon a call for redemption. However, the Company currently expects that such financing can be obtained if necessary, subject to market conditions and the Company's financial condition at the time the Company seeks such financing.

If the Company becomes unable to continue as a going concern, it may have to (i) initiate litigation or seek protection under bankruptcy reorganization laws, or (ii) liquidate its assets and the values it receives for its assets in liquidation or dissolution could be significantly lower than the values reflected in the consolidated financial statements. The accompanying consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty, including any adjustments to reflect the possible future effects of the recoverability and classification of recorded asset amounts or amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

*Principles of Consolidation* - The consolidated financial statements include the accounts of Cartesian and its wholly-owned subsidiaries. All inter-company accounts and transactions have been eliminated in consolidation.

<b>Name of Subsidiary</b>	<b>Date Formed/Acquired</b>
TMNG Europe Ltd.	March 19, 1997
TMNG Canada Ltd.	May 14, 1998
TMNG.com, Inc.	June 18, 1999
TMNG Marketing, LLC	September 5, 2000
TMNG Technologies, Inc.	August 27, 2001
Cambridge Strategic Management Group, Inc. ("CSMG")	March 6, 2002
Cambridge Adventis Ltd.	March 17, 2006
Cartesian Ltd. ("Cartesian Limited")	January 2, 2007
RVA Consulting, LLC	August 3, 2007
TWG Consulting, Inc.	October 5, 2007
Famcombe Technology Limited	July 22, 2015
Famcombe Engineering Services Limited	July 22, 2015
Famcombe France SARL	July 22, 2015

*Fiscal Year* - The Company reports its operating results on a 52/53-week fiscal year basis. The fiscal year end is determined as the Saturday ending nearest December 31. The fiscal years ended December 31, 2016 and January 2, 2016 were each 52-week fiscal years and were comprised of four 13-week quarters. The fiscal years ended December 31, 2016 and January 2, 2016 are referred to herein as fiscal years 2016 and 2015, respectively.

*Use of Estimates* - The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. As described in further detail below, significant estimates include the estimates of costs to complete used to recognize revenues on fixed fee contracts, estimates utilized in measuring the fair value of the Company's reporting units which had recorded goodwill, estimates for fair value of Elutions, Inc. ("Elutions") instruments, estimates used to determine the fair value of the contingent consideration liability and identifiable intangible assets, estimates used to determine the ultimate realization of deferred tax assets and estimates used to determine the recoverability of deferred contract costs.

*Revenue Recognition* - The Company recognizes revenue from time and materials consulting contracts in the period in which its services are performed. In addition to time and materials contracts, the Company also has fixed fee contracts. The Company recognizes revenues on milestone or deliverables-based fixed fee contracts and time and materials contracts not to exceed contract price using the percentage of completion-like method described by Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 605-35, "*Revenue Recognition - Construction-Type and Production-Type Contracts*." For fixed fee contracts where services are not based on providing deliverables or achieving milestones, the Company recognizes revenue on a straight-line basis over the period during which such services are expected to be performed. In connection with some fixed fee contracts, the Company may receive payments from customers that exceed revenues up to that point in time. The Company records the excess of receipts from customers over recognized revenue as deferred revenue. Deferred revenue is classified as a current liability to the extent it is expected to be earned within twelve months from the date of the balance sheet.

The FASB ASC 605-35 percentage-of-completion-like methodology involves recognizing revenue using the percentage of services completed, on a current cumulative cost to total cost basis, using a reasonably consistent profit margin over the period. Due to the longer term nature of these projects, developing the estimates of costs often requires significant judgment. Factors that must be considered in estimating the progress of work completed and ultimate cost of the projects include, but are not limited to, the availability of labor and labor productivity, the nature and complexity of the work to be performed, and the impact of delayed performance. If changes occur in delivery, productivity or other factors used in developing the estimates of costs or revenues, the Company revises its cost and revenue estimates, which may result in increases or decreases in revenues and costs, and such revisions are reflected in income in the period in which the facts that give rise to that revision become known.

Although there was no revenue recognized related to sales of software for fiscal years 2016 or 2015, the Company provides post-contract support ("PCS") services on historical software sales, including technical support and maintenance services as well as other professional services not essential to the functionality of the software. For those contracts that include PCS service arrangements which are not essential to the functionality of the software solution, the Company separates the FASB ASC 605-35 software services and PCS services utilizing the multiple-element arrangement model prescribed by FASB ASC 605-25, "*Revenue Recognition - Multiple-Element Arrangements*". The Company separated the PCS service elements and allocated total contract consideration to the contract elements based on the relative fair value of those elements utilizing PCS renewal terms as evidence of fair value. Revenues from PCS services are recognized ratably on a straight-line basis over the term of the support and maintenance agreement.

*Cash and Cash Equivalents* - Cash and cash equivalents include cash on hand, money market investments and short-term investments with original maturities of three months or less when purchased. The carrying amounts of cash and cash equivalents approximates its fair value because of their relatively short-term maturities.

*Property and Equipment* - Property and equipment are stated at cost or acquisition date fair value less accumulated depreciation. Maintenance and repairs are charged to expense as incurred. Depreciation is based on the estimated useful lives of the assets and is computed using the straight-line method, and capital leases, if any, are amortized on a straight-line basis over the life of the lease. Asset lives range from three to seven years for furniture and fixtures, software and computer equipment. Leasehold improvements are capitalized and amortized over the life of the lease or useful life of the asset, whichever is shorter. The Company reviews long-lived assets to be held and used for impairment whenever events or changes in circumstances indicate that the carrying amount of these assets might not be recoverable in accordance with the provisions of FASB ASC 360, "*Property, Plant and Equipment*." No impairments were identified in any period presented.

*Managed Services Implementation Revenues and Costs* - Managed service arrangements provide for the delivery of a software or technology-based solution to clients over a period of time without the transfer of a license or a software sale to the customer. For long-term managed service agreements, implementation efforts are often necessary to develop the software utilized to deliver the managed service. Costs of such implementation efforts may include internal and external costs for coding or customizing systems and costs for conversion of client data. The Company may invoice its clients for implementation fees at the go-live date of the underlying solution. Lump sum implementation fees received from clients are initially deferred and recognized on a pro-rata basis as services are provided. Specific, incremental and direct costs of implementation incurred prior to the services going live are deferred pursuant to FASB ASC 605-35-25 and amortized over the period that the related ongoing services revenue is recognized to the extent that the Company believes the recoverability of the costs from the contract is probable. If a client terminates a managed services arrangement prior to the end of the contract, a loss on the contract may be recorded, if applicable, and any remaining deferred implementation revenues and costs would then be recognized into earnings generally over the remaining service period through the termination date. During the fiscal years ended December 31, 2016 and January 2, 2016, deferred implementation costs related to managed service contracts were \$432,000 and \$443,000, respectively. Unamortized deferred implementation costs were \$318,000 and \$229,000 as of December 31, 2016 and January 2, 2016, respectively, of which \$266,000 and \$229,000 were included in Other current assets on the Consolidated Balance Sheets as of December 31, 2016 and January 2, 2016, respectively. As of December 31, 2016, \$52,000 was included in Other long-term assets on the Consolidated Balance Sheets.

*Research and Development and Software Development Costs* - Software development costs are accounted for in accordance with FASB ASC 985-20, "Software - Costs of Software to Be Sold, Leased, or Marketed" and FASB ASC 350-40, "Intangibles - Goodwill and Other - Internal-Use Software." Capitalization of software development costs for products to be sold to third parties begins upon the establishment of technological feasibility and ceases when the product is available for general release. The Company capitalizes development costs incurred during the period between the establishment of technological feasibility and the release of the final product to customers if such costs are material. In addition, the Company capitalizes software development costs for internal use software that it does not intend to market to third parties but uses to deliver services. The establishment of technological feasibility and the ongoing assessment of recoverability of capitalized software development costs require considerable judgment by management concerning certain external factors including, but not limited to, the date technological feasibility is reached, anticipated future gross revenue, estimated economic life and changes in software and hardware technologies. During fiscal years 2016 and 2015, \$467,000 and \$771,000, respectively, of these costs were expensed as incurred. During fiscal years 2016 and 2015, \$436,000 and \$643,000, respectively, of internal use software development costs were capitalized.

*Goodwill* - The Company accounts for goodwill in accordance with the provisions of FASB ASC 350, "Intangibles-Goodwill and Other." Goodwill represents the excess of purchase price over the fair value of net assets acquired in business combinations accounted for as purchases. The Company evaluates goodwill for impairment on an annual basis on the last day of the first fiscal month of the fourth fiscal quarter and whenever events or circumstances indicate that these assets may be impaired. The goodwill impairment test involves a two-step process. The Company determines impairment by comparing the net assets of each reporting unit to its respective fair value. In the event a reporting unit's carrying value exceeds its fair value, an indication exists that the reporting unit goodwill may be impaired. In this situation, the Company must determine the implied fair value of goodwill by assigning the reporting unit's fair value to each asset and liability of the reporting unit. The excess of the fair value of the reporting unit over the amounts assigned to its assets and liabilities is the implied fair value of goodwill. An impairment loss is measured by the difference between the goodwill carrying value and the implied fair value.

Due to a significant decrease in the Company's stock price during the second quarter of fiscal 2016, the Company performed the first step of the goodwill impairment test. Based on the results of the first step of the goodwill impairment test, the estimated fair value of the reporting units did not exceed their carrying value and therefore step two of the test was required. Based on the results of the second step of the goodwill impairment test (i.e., applying the income approach and market approach described below, the Company determined, as of July 2, 2016, that the implied fair value of goodwill was less than the carrying value, which resulted in goodwill impairment of \$10.8 million, representing all of that goodwill. See Note 4, Goodwill and Intangible Assets, for additional discussion related to goodwill.

Fair value of the Company's reporting units is determined using a combination of the income approach and the market approach. The income approach uses a reporting unit's projection of estimated cash flows discounted using a weighted-average cost of capital analysis that reflects current market conditions. The Company also considers the market approach to valuing its reporting units utilizing revenue and EBITDA multiples. The Company compares the results of its overall enterprise valuation as determined by the combination of the two approaches to the Company's market capitalization. Significant management judgments related to these approaches include:

- *Anticipated future cash flows and terminal value for each reporting unit* - The income approach to determining fair value relies on the timing and estimates of future cash flows, including an estimate of terminal value. The projections use management's estimates of economic and market conditions over the projected period including growth rates in revenues and estimates of expected changes in operating margins. The Company's projections of future cash flows are subject to change as actual results are achieved that differ from those anticipated. Because management frequently updates its projections, the Company would expect to identify on a timely basis any significant differences between actual results and recent estimates.
- *Selection of an appropriate discount rate* - The income approach requires the selection of an appropriate discount rate, which is based on a weighted average cost of capital analysis. The discount rate is affected by changes in short-term interest rates and long-term yields as well as variances in the typical capital structure of marketplace participants. The discount rate is determined based on assumptions that would be used by marketplace participants, and for that reason, the capital structure of selected marketplace participants was used in the weighted average cost of capital analysis. It is possible that the discount rate can fluctuate from period to period.
- *Selection of an appropriate multiple* - The market approach requires the selection of an appropriate multiple to apply to revenues or EBITDA based on comparable guideline companies or transaction multiples. It is often difficult to identify companies or transactions with a similar profile in regards to revenue, geographic operations, risk profile and other factors.

*Intangible Assets* - Identifiable intangible assets, resulting from the acquisition of the Farncombe Entities, consist of customer relationships, agreements not to compete, and a trade name. The Company amortizes the identifiable intangible assets over their estimated economic benefit period, from six months to four and one-half years. In accordance with FASB ASC 360, "Property, Plant and Equipment," the Company uses its best estimates based upon reasonable and supportable assumptions and projections to review for impairment of long-lived assets to be held and used whenever events or changes in circumstances indicate that the carrying amount of its assets might not be recoverable. If the Company was to determine that events and circumstances warrant a change to the estimate of an identifiable intangible asset's remaining useful life, then the remaining carrying amount of the identifiable intangible asset would be amortized prospectively over that revised remaining useful life. Additionally, information resulting from other events and circumstances may indicate that the carrying value of one or more identifiable intangible assets is not recoverable which would result in recognition of an impairment charge.

*Income Taxes* - The Company recognizes a liability or asset for the deferred tax consequences of temporary differences between the tax basis of assets or liabilities and their reported amounts in the financial statements. A valuation allowance is provided when, in the opinion of management, it is more likely than not that some portion or all of a deferred tax asset will not be realized. The Company records the financial statement effects of an income tax position when it is more likely than not that the position will be sustained on the basis of the technical merits. The Company recognizes the largest amount of tax benefit that is more than 50 percent likely to be realized upon ultimate settlement with the related tax authority. The measurement of any unrecognized tax benefit is based on management's best judgment. The Company reviews these estimates and makes changes to recorded amounts of uncertain tax positions as facts and circumstances warrant.

*Foreign Currency Transactions and Translation* - Cartesian Ltd., the international operations of Cambridge Strategic Management Group, Inc., Farncombe France SARL, Farncombe Technology Limited, and Farncombe Engineering Services Limited conduct business primarily denominated in their respective local currency, which is their functional currency. Assets and liabilities have been translated to U.S. dollars at the period-end exchange rates. Revenues and expenses have been translated at exchange rates which approximate the average of the rates prevailing during each period. Translation adjustments are reported as a separate component of accumulated other comprehensive loss in the Consolidated Statements of Stockholders' Equity. Accumulated other comprehensive loss resulting from foreign currency translation adjustments totaled \$6.8 million and \$5.5 million, respectively as of December 31, 2016 and January 2, 2016, and is included in Total Stockholders' Equity in the Consolidated Balance Sheets. Assets and liabilities denominated in other than the functional currency of a subsidiary are re-measured at rates of exchange on the balance sheet date. Resulting gains and losses on foreign currency transactions are included in the Company's results of operations. Realized and unrealized exchange losses included in the results of operations during fiscal 2016 and 2015 were \$535,000 and \$316,000, respectively.

*Derivative Financial Instruments* FASB ASC 820, *Fair Value Measurements* requires bifurcation of certain embedded derivative instruments in certain debt or equity instruments, and measurement at their fair value for accounting purposes. A holder redemption feature embedded in the Company's note payable requires bifurcation from its host instrument and is accounted for as a freestanding derivative. See Note 3, Strategic Alliance and Investment by Elutions, Inc. and Note 10, Fair Value Measurements, for discussion of this embedded derivative.

*Share-Based Compensation* - The Company accounts for share-based payment awards using the provisions of FASB ASC 718, "*Compensation-Stock Compensation*". The Company measures the cost of employee services received in exchange for an award of equity instruments based on the grant-date fair value of the award.

The fair value of service-based stock option grants is estimated on the grant date using a Black-Scholes option-pricing model and compensation expense related to stock option grants is recognized on a graded vesting schedule over the vesting period. For stock options containing a market condition, the market conditions are required to be considered when calculating the grant date fair value. FASB ASC 718 requires selection of a valuation technique that best fits the circumstances of an award. In order to reflect the substantive characteristics of the market condition option award, a Monte Carlo simulation valuation model was used to calculate the grant date fair value of such stock options. Expense for the market condition stock options is recognized over the derived service period as determined through the Monte Carlo simulation model.

For non-vested, performance-based stock awards, compensation expense is recognized based on management's expectations with regard to achievement of certain performance and service conditions. The fair value of the awards is determined based on the market value of the underlying stock at the grant date. Expense for the awards ultimately expected to vest is recognized on a straight-line basis over the implied service period of the award. In the event the Company determines it is no longer probable that the minimum performance criteria specified in the restricted stock award agreement will be achieved, previously recognized compensation expense would be reversed in the period such a determination is made. For non-vested, service-based stock awards, compensation is recognized based on achievement of service conditions alone. The fair value of the awards is determined based on the market value of the underlying stock at the grant date. Expense for the awards ultimately expected to vest is recognized on a graded vesting schedule over the vesting period. See Note 5, Share-Based Compensation.

*Loss Per Share* - The Company calculates and presents earnings (loss) per share using a dual presentation of basic and diluted earnings (loss) per share. Basic earnings (loss) per share is computed by dividing net income (loss) by the weighted average number of common shares outstanding for the period. The weighted average number of common shares outstanding excludes treasury shares held by the Company. Diluted earnings (loss) per share is computed in the same manner except that the weighted average number of shares is increased for dilutive securities.

In accordance with the provisions of FASB ASC 260, "*Earnings per Share*," the Company uses the treasury stock method for calculating the dilutive effect of employee stock options, non-vested shares and warrants. The employee stock options, non-vested shares and warrants will have a dilutive effect under the treasury stock method only when average market value of the underlying Company common stock during the respective period exceeds the assumed proceeds. For share-based payment awards with a performance condition, the Company must first use the guidance on contingently issuable shares in FASB ASC 260-10 to determine whether the awards should be included in the computation of diluted earnings per share for the reporting period. For all non-vested performance-based awards, the Company determines the number of shares, if any, that would be issuable at the end of the reporting period if the end of the reporting period were the end of the contingency period. In applying the treasury stock method, assumed proceeds include the amount, if any, the employee must pay upon exercise, the amount of compensation cost for future services that the Company has not yet recognized, and the amount of tax benefits, if any, that would be credited to additional paid-in capital assuming exercise of the options and the vesting of non-vested shares. For fiscal years 2016 and 2015, approximately 43,000 and 50,000 shares, respectively, related to outstanding stock options, non-vested shares and warrants that otherwise would have been included in the diluted earnings per share calculation were not included because they would have been anti-dilutive due to the net loss for those periods.

*Accounts Receivable* - The Company has entered into agreements with third-party financial institutions under which it can selectively elect to transfer to the financial institutions accounts receivable with certain of the Company's largest, international customers on a non-recourse basis. This agreement gives the Company optionality to convert outstanding accounts receivable to cash. For transfers of accounts receivable under these agreements that qualify as sales, the Company applies the guidance in ASC 860, "*Transfers and Servicing - Sales of Financial Assets*", which requires the derecognition of the carrying value of those accounts receivable on the Consolidated Balance Sheets and recognition of a loss on the sale of an asset in operating expenses on the Consolidated Statements of Operation. During the fiscal years ended December 31, 2016 and January 2, 2016, \$19.6 million and \$26.8 million, respectively, of accounts receivable transferred pursuant to these agreements qualified as sales of receivables and the carrying amounts were derecognized. The loss on the sale of these accounts receivable recorded in the Consolidated Statements of Operations was approximately \$75,000 and \$161,000 for fiscal years 2016 and 2015, respectively.

On April 22, 2016, the Company entered into a Factoring Agreement ("Factoring Agreement") with RTS Financial Service, Inc. ("RTS"). Pursuant to the terms of the Factoring Agreement, the Company may offer for sale, and RTS may purchase, certain accounts receivable of the Company on an account by account basis (such purchased accounts, the "Purchased Accounts"). Under the Factoring Agreement, upon purchase RTS becomes the absolute owner of the Purchased Accounts, which are payable directly to RTS, subject to certain repurchase obligations of the Company. Proceeds from transfers under the Factoring Agreement reflect the face value of the account receivable less a factor's fee. The factor's fee is computed on a daily basis until the amount of the Purchased Account is paid to RTS, and equals the amount of the Purchased Account multiplied by the sum of the prime rate then in effect plus 6.49% divided by 360. Upon purchase of a Purchased Account, RTS will pay to the Company the amount of the Purchased Account, less a reserve of 20% of that amount, which reserve (less the total fee calculated) is payable to the Company upon collection of the Purchased Account by RTS. The fee is recorded as interest expense within the Consolidated Statements of Operations and Comprehensive Loss in the period the fee becomes payable. During the fiscal year ended December 31, 2016, the Company factored \$3,000,000 of accounts receivable under the Factoring Agreement and recognized a liability of \$768,000 which is recorded as Secured borrowing on the Consolidated Balance Sheet as of December 31, 2016. Until received, the reserve amount withheld at the time of transfer is recorded as a receivable and is included in Other current assets on the Consolidated Balance Sheets. As of December 31, 2016 the amount recorded as a receivable for the reserve withheld by RTS was \$154,000. The amount of fees recorded as interest expense were immaterial for the fiscal year ended December 31, 2016.

On July 29, 2016, Cartesian Limited, a U.K. subsidiary of Cartesian, Inc., entered into an Invoice Discounting Agreement, a Debenture (security agreement) and certain related agreements (collectively, the "Agreement") with RBS Invoice Finance Limited ("RBS"). Pursuant to the terms of the Agreement, Cartesian Limited may assign to RBS certain eligible accounts receivable of Cartesian Limited (such purchased accounts, the "U.K. Purchased Accounts").

The Agreement has a maximum funding level of £3,000,000. At the time of the purchase of a U.K. Purchased Account, RBS will make an initial payment to Cartesian Limited of no more than 50% of the U.K. Purchased Account. Upon collection of a U.K. Purchased Account, RBS will pay to Cartesian Limited the amount of the U.K. Purchased Account, less the initial payment and a discounting charge. The discounting charge is computed on a daily basis until the amount of the U.K. Purchased Account is paid to RBS, and equals the amount of the U.K. Purchased Account multiplied by the sum of the National Westminster Bank Plc base rate then in effect plus 1.75% divided by 365. The Agreement also includes a fixed fee service charge of £833 per month. The Agreement has a loan concentration limit regarding the obligors on U.K. Purchased Accounts. The discounting charges are recorded as interest expense within the Consolidated Statements of Operations and Comprehensive Loss in the period the fee becomes payable.

Cartesian Limited's obligations under the Agreement are secured by certain assets of Cartesian Limited, including all equipment and intellectual property of Cartesian Limited, all stock of subsidiaries held by Cartesian Limited and certain accounts receivable of Cartesian Limited. Under the Agreement, Cartesian Limited's net worth, as measured by issued share capital and retained earnings, less all intangible assets, may not fall below £7,500,000 in any 12 month period.

RBS may require Cartesian Limited to repurchase U.K. Purchased Accounts upon a number of specified events, including if Cartesian Limited breaches or defaults on any of its obligations under the Agreement or if Cartesian Limited fails to meet the net worth requirement. Cartesian Limited is in compliance with those obligations and meets the net worth requirement.

The Agreement has an initial term of 12 months and continues after the initial term until terminated by either Cartesian Limited or RBS. Cartesian Limited may terminate the Agreement at any time during the initial term upon approval of RBS or upon six months' notice of intent to terminate. RBS may terminate the Agreement upon certain other events or conditions included in the Agreement. No amounts were factored under the Agreement during the fiscal year ended December 31, 2016.

*Inventory* – In accordance with the provisions of FASB ASC 330, “*Inventory*,” the Company’s inventory is stated at the lower of cost, using the first-in, first-out (FIFO) method, or fair value. As of December 31, 2016 and January 2, 2016, the Company had \$0.4 million and \$0.6 million in inventory, respectively, all of which was finished goods. All of the inventory was purchased in July 2014 from Elutions, Inc. (“Elutions”), which owns more than five percent of the outstanding shares of common stock of the Company. ASC 330 requires inventory to be recorded at the lower of cost basis or market. The fair value of the inventory was determined using the indirect cost approach. As a result of the evaluation of lower of cost or market, the Company recorded impairments of its inventory value of \$0.3 million and \$2.1 million during fiscal 2016 and 2015, respectively. Also, during the second quarter of fiscal 2015 the Company recorded an inventory adjustment of \$0.3 million in Cost of Services related to a provision in the general framework agreement between the Company and Elutions (see Note 3, Strategic Alliance and Investment by Elutions, Inc.), that states if the Company had not sold 75% of such inventory acquired from Elutions within one year after acquisition, Elutions is required upon request of the Company to source its requirements for future projects in the U.S. or U.K. from such inventory subject to a 10% discount against the Company’s purchase price until the Company has exhausted such inventory. In fiscal 2015, the Company requested that Elutions source its requirements for future projects from the inventory that was acquired by the Company from Elutions in July 2014. Management continues to work with Elutions to utilize the inventory and changes in management’s expectations in future periods could further impact the net realizable value of the inventory.

*Recent Accounting Pronouncements* – In August 2016, the FASB issued Accounting Standards Update (“ASU”) 2016-15, “Classification of Certain Cash Receipts and Cash Payments”, which will make eight targeted changes to how cash receipts and cash payments are presented and classified in the statement of cash flows. This ASU is effective for fiscal years beginning after December 15, 2017, including interim periods within those years, and the ASU requires adoption on a retrospective basis. Early adoption is permitted. The Company is currently evaluating the impact the application of ASU 2016-15 will have on the Company’s consolidated financial statements.

In March 2016, the FASB issued ASU 2016-9, “Improvements to Employee Share-Based Payment Accounting”, which simplifies several aspects of the accounting for employee share-based payment transactions, including accounting for income taxes, forfeitures, and statutory tax withholding requirements, as well as classification in the statement of cash flows. The ASU is effective for public companies for fiscal years beginning after December 15, 2016, including interim periods within those fiscal years. Early adoption is permitted. A modified retrospective approach is required on the balance sheet by means of a cumulative-effect adjustment to equity as of the beginning of the period in which the guidance is adopted. A retrospective or prospective approach can be used for the cash flow statement and a prospective approach is required for the statement of operations. The Company does not expect the adoption of ASU 2016-9 will have a material effect on the Company’s consolidated financial statements.

In February 2016, the FASB issued ASU 2016-2, “Leases” which, for operating leases, requires a lessee to recognize a right-of-use asset and a lease liability, initially measured at the present value of the lease payments, in its balance sheet. The standard also requires a lessee to recognize a single lease cost, calculated so that the cost of the lease is allocated over the lease term, on a generally straight-line basis. The ASU is effective for public companies for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Early adoption is permitted. A modified retrospective approach is required for all leases existing or entered into after the beginning of the earliest comparative period in the consolidated financial statements. The Company is currently evaluating the effects that the adoption of ASU 2016-2 will have on the Company’s consolidated financial statements.

In November 2015, the FASB issued ASU 2015-17, “Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes” which requires deferred tax liabilities and assets to be classified as noncurrent in entities’ balance sheets. Under current U.S. GAAP, an entity is required to separate deferred income tax liabilities and assets into current and noncurrent amounts in a classified statement of financial position. The current requirement that deferred tax liabilities and assets of a tax-paying component of an entity be offset and presented as a single amount is not affected by the amendments. The amendments are effective for financial statements issued for annual periods beginning after December 15, 2016, and interim periods within those annual periods. Early adoption is permitted. The Company early adopted ASU 2015-17 prospectively during the fourth quarter of fiscal 2016, classifying its deferred income tax assets and deferred income tax liabilities as noncurrent. The adoption did not have a material effect on the Company’s consolidated financial statements. Prior periods were not retrospectively adjusted.

In July 2015, the FASB issued ASU 2015-11 which requires entities to measure most inventory at the lower of cost and net realizable value thereby simplifying the existing guidance which required entities to measure inventory at the lower of cost or market. Under the current guidance, market is defined as replacement cost, net realizable value or net realizable value less a normal profit margin. The newly issued guidance eliminates the requirement to determine replacement cost and defines net realizable value as the estimated selling prices in the ordinary course of business less reasonably predictable costs of completion, disposal and transportation. This new guidance is effective for the Company beginning in fiscal 2017. The Company does not expect the adoption of this standard update will have a material effect on its consolidated financial statements.

In April 2015, the FASB issued ASU 2015-5, which provides guidance on a customer's accounting for cloud computing costs. Under the ASU, a customer must determine whether a cloud computing arrangement contains a software license. If so, the customer would account for the fees related to the software license element in a manner consistent with how the acquisition of other software licenses is accounted for under current U.S. GAAP. If the arrangement does not contain a software license, the customer would account for the arrangement as a service contract. The ASU does not prescribe how to account for cloud computing arrangements deemed to be service contracts. An arrangement would contain a software license element if both of the following criteria are met: the customer has the contractual right to take possession of the software at any time during the hosting period without significant penalty; and it is feasible for the customer to either run the software on its own hardware or contract with another party unrelated to the vendor to host the software. The ASU is effective for annual periods (and interim periods therein) beginning after December 15, 2015. Entities may adopt the guidance retrospectively or prospectively to arrangements entered into, or materially modified, after the effective date. The Company prospectively adopted this guidance in its first quarter of fiscal 2016 and the adoption did not have a material impact on its consolidated financial statements.

In August 2014, the FASB released ASU 2014-15, Presentation of Financial Statements – Going Concern, which requires a company to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the entity's ability to continue as a going concern within the one year period subsequent to the date that the financial statements are issued or within the one year period subsequent the date that the financial statements are available to be issued. This guidance is effective for fiscal years ending after December 15, 2016, and for annual and interim periods thereafter. Early adoption was permitted. The Company adopted this guidance in the fourth quarter of 2016. The adoption did not have an impact on its consolidated financial statements.

In June 2014, the FASB issued ASU 2014-12, Compensation-Stock Compensation: Accounting for Share-Based Payments When the Terms of an Award Provide That a Performance Target Could Be Achieved after the Requisite Service Period. The standard update resolves the diverse accounting treatment for these share-based payments by requiring that a performance target that affects vesting and that could be achieved after the requisite service period be treated as a performance condition. The requisite service period ends when the employee can cease rendering service and still be eligible to vest in the award if the performance target is achieved. The provisions of FASB ASU 2014-12 are effective for annual periods and interim periods within those annual periods beginning after December 15, 2015. The Company adopted this guidance in its first quarter of fiscal 2016 and the adoption did not have a material impact on its consolidated financial statements.

In May 2014, the FASB issued ASU 2014-9, Revenue from Contracts with Customers. This standard update clarifies the principles for recognizing revenue and develops a common revenue standard for U.S. GAAP and International Financial Reporting Standards. The standard update intends to provide a more robust framework for addressing revenue issues; improve comparability of revenue recognition practices across entities, industries, jurisdictions, and capital markets; and provide more useful information to users of financial statements through improved disclosure requirements. Upon adoption of this standard update, we expect that the allocation and timing of revenue recognition will be impacted. In July 2015, the FASB voted to defer the effective date of this new standard by one year and to permit early adoption beginning as of the original effective date of the new standard. The provisions of FASB ASU 2014-9 will now be effective for annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period, and are to be applied retrospectively to each prior period presented or retrospectively with the cumulative effect recognized as of the date of adoption. The Company is currently evaluating the impact that this standard update will have on its consolidated financial statements.

## **2. ACQUISITION**

On July 22, 2015, the Company entered into a Share Purchase Agreement (the "Purchase Agreement") and completed the acquisition of all of the outstanding shares of capital stock of Famcombe France SARL, an entity formed under the laws of France, and Famcombe Technology Limited, a company incorporated and registered in England and Wales (collectively, the "Famcombe Entities"). The Famcombe Entities operate primarily in the U.K. and Europe and are in the business of providing strategic consultancy, content security, testing and implementation services for broadcast and broadband internet digital

television. Famcombe's experience in these areas along with Cartesian's strategic, operational and technical capabilities in serving global service providers strengthens the Company's ability to support convergence and quad play offerings in this growing market.

The total purchase price, subject to adjustment in accordance with the terms of the Purchase Agreement, was £4,360,620 pounds sterling (approximately US\$6.8 million based on an exchange rate of £1.000 = US\$1.556 as of July 21, 2015) comprised of:

- Cash paid at the closing in the amount of £654,093 pounds sterling (approximately US\$1.0 million based on an exchange rate of £1.000 = US\$1.556 as of July 21, 2015) which was funded from our available cash on hand and represents 15% of the purchase price.
- £1,308,186 pounds sterling (approximately US\$2.0 million based on an exchange rate of £1.000 = US\$1.556 as of July 21, 2015) settled by the issuance of 588,567 shares of Company common stock at the closing which equals 30% of the purchase price. The number of shares issued at the closing was calculated using a volume-weighted average share price for Company common stock on the Nasdaq Stock Market for the 30 days ending on the day before the date of the signing of the Purchase Agreement and based upon the average pounds sterling to dollar exchange rate recorded by the Financial Times for the 30 days ending on the day before the date of signing of the Purchase Agreement. The share price resulting from this calculation was £2.22 pounds sterling per share (US\$3.46 per share).
- Additional consideration in the amount of £654,093 pounds sterling (approximately US\$1.0 million based on an exchange rate of £1.000 = US\$1.556 as of July 21, 2015) which represents 15% of the purchase price, payable after the closing in accordance with the Purchase Agreement upon determination of the net working capital of the Famcombe Entities as prescribed in the Purchase Agreement, and as adjusted based upon the relative amounts of the net working capital of the Famcombe Entities as of May 31, 2015 and the closing and as compared to the target amount of net working capital as provided in the Purchase Agreement.
- Earn-out consideration (the "Earn-Out") which is potentially payable in cash and/or shares of Company common stock as elected by each Seller in the Purchase Agreement and represents 40% of the purchase price as described below.

The aggregate amount potentially payable pursuant to the Earn-Out consists of cash in an amount up to £719,483 pounds sterling (approximately US\$0.9 million based on an exchange rate of £1.000 = US\$1.234 as of December 31, 2016) and up to 461,055 shares of Company common stock (approximately £1,024,765 pounds sterling or US\$1.3 million based on an exchange rate of £1.000 = US\$1.234 as of December 31, 2016) and based upon the value of the shares as described below. Amounts, if any, payable under the Earn-Out are based upon the amounts of specified revenues attributable to the Famcombe Entities after June 1, 2015 through July 22, 2017, as defined in the Purchase Agreement. Pursuant to the Purchase Agreement, the number of shares of Company common stock payable under the Purchase Agreement at the closing and pursuant to the Earn-Out was determined based on the volume weighted average share price for Company common stock on the Nasdaq Stock Market for the 30 days ending on the day before the date of signing of the Purchase Agreement and based upon the average pounds sterling to dollar exchange rate recorded by the Financial Times for the 30 days ending on the day before the date of signing of the Purchase Agreement.

In October 2015 the Company paid approximately \$2.1 million to the former shareholders of the Famcombe Entities with respect to the consideration payable related to net working capital as adjusted pursuant to the Purchase Agreement. This represented payment of a portion of the purchase price in the amount of £654,093 pounds sterling (approximately US\$1.0 million) payable in accordance with the Purchase Agreement along with an additional £743,753 pounds sterling (approximately US\$1.1 million) related to the working capital adjustment for excess working capital under the Purchase Agreement. In March 2016, the Company paid additional amounts of approximately £184,000 and €12,000 (approximately US\$0.3 million) to the former shareholders of the Famcombe Entities with respect to net working capital as adjusted. In the fourth quarter of fiscal 2016 and the first quarter of fiscal 2017, payments of £20,000 (approximately US\$25,000) and £48,000 (approximately US\$59,000), respectively, were paid to the former shareholders of the Famcombe Entities with respect to net working capital as adjusted.

The Purchase Agreement contains non-compete and non-solicitation agreements of the individual former shareholders of the Famcombe Entities. The Purchase Agreement also contains customary warranties, covenants and indemnification provisions.

The results of operations of the Famcombe Entities have been included in the Company's Consolidated Statements of Operations and Comprehensive Loss subsequent to the July 22, 2015 acquisition date. The Famcombe Entities revenue and net income included in the Company's results of operations for the fiscal year ended January 2, 2016, were \$6.3 million and \$0.5 million, respectively.

Acquisition-related expense recognized during fiscal year 2015 was approximately \$697,000 which is recorded in Selling, general and administrative expenses on the Consolidated Statements of Operations and Comprehensive Loss.

The Company accounted for the acquisition of the Famcombe Entities using the acquisition method as required in FASB ASC 805, "Business Combinations." Based on the acquisition method of accounting, the consideration was allocated to the assets and liabilities acquired based on their fair values as of the acquisition date. Any remaining amount of the purchase price allocation was recorded as goodwill. The Famcombe Entities are included in the Company's EMEA segment.

#### Purchase Price

The total purchase price transferred to effect the acquisition of the Famcombe Entities is as follows:

	(in thousands)	
Cash paid at closing	\$	1,015
Equity issued at closing		2,036
Fair value of contingent consideration		1,921
Working capital adjustment		2,485
<b>Total purchase price</b>	<b>\$</b>	<b>7,457</b>

#### Purchase Price Allocation

Total purchase consideration has been allocated to the tangible and intangible assets and to liabilities assumed based on their respective acquisition-date fair values. The purchase price allocation is summarized in the following table:

	(in thousands)	
<b>Tangible assets and liabilities</b>		
Cash	\$	1,378
Accounts receivable, net		4,627
Other current assets		191
Other non-current assets		137
Accounts payable		(1,874)
Accrued payroll and related expenses		(796)
Other current liabilities		(636)
Non-current deferred tax liability		(264)
Intangible assets		1,260
Goodwill		3,434
<b>Net assets acquired</b>	<b>\$</b>	<b>7,457</b>

Based on the results of the acquisition valuation, the Company allocated approximately \$1.3 million of the purchase price to identifiable intangible assets. The following table summarizes the major classes of intangible assets, as well as the respective weighted-average amortization periods:

	Amount (in thousands)	Weighted-Average Amortization Period (Years)
<b>Identifiable Intangible Assets</b>		
Tradenname	\$ 90	0.5
Non-compete agreements	60	4.5
Customer relationships	1,110	3.5
<b>Total identifiable intangible assets</b>	<b>\$ 1,260</b>	

The excess of purchase consideration over net assets assumed was recorded as goodwill, which represents the strategic value assigned to the Famcombe Entities, including the expected benefit from synergies resulting from the transaction, as well as the knowledge and experience of the workforce in place. In accordance with applicable accounting standards, goodwill will not be amortized but instead will be tested for impairment at least annually, or more frequently, if certain indicators are present. In the event that management determines that the value of goodwill becomes impaired, the combined company will incur an accounting charge for the amount of the impairment during the fiscal quarter in which the determination is made. The goodwill and intangible assets related to this acquisition are not deductible for foreign tax purposes.

The fair values of assets acquired and liabilities assumed are based on estimates of fair values as of the acquisition date. Management believes the fair values recognized for the assets acquired and liabilities assumed are based on reasonable estimates and assumptions.

The Company has classified the Eam-Out liability as a Level 3 liability and the fair value of the Eam-Out liability will be evaluated each reporting period and changes in its fair value will be included in the Company's results of operations. During fiscal year 2016, the change in the fair value of the Eam-Out liability was a decrease of \$273,000 and during the period from July 22, 2015 to January 2, 2016, the change in the fair value of the Eam-Out liability was an increase of \$255,000. The change in the fair value of the Eam-Out liability is included in Selling, general and administrative expenses on the Consolidated Statements of Operations and Comprehensive Loss for fiscal years 2016 and 2015. The balance of the Eam-Out liability as of December 31, 2016 and January 2, 2016 was \$1,903,000 and \$2,176,000, respectively, which is recorded as a current liability on the Consolidated Balance Sheet as of December 31, 2016 and as a non-current liability on the Consolidated Balance Sheet as of January 2, 2016. See Note 10, Fair Value Measurements, for discussion of the determination of fair value of the Eam-Out liability.

If the Eam-Out were to be achieved prior to the end of the Eam-Out period, the former shareholders of the Famcombe Entities could request payment prior to the end of the Eam-Out period.

#### *Pro Forma Financial Information*

The following unaudited pro forma financial information presents the results of operations as if the acquisition had taken place on the first day of fiscal 2014. These amounts were prepared in accordance with the acquisition method of accounting under existing standards and are not necessarily indicative of the results of operations that would have occurred if our acquisition of the Famcombe Entities had been completed on the first day of fiscal 2014, nor are they indicative of our future operating results. These unaudited pro forma amounts include a reclassification of non-recurring acquisition expenses in the amount of \$697,000 related to the acquisition of Famcombe to fiscal year 2014 whereas they were actually incurred during fiscal year 2015. Pro forma adjustment also consist of an adjustment to record additional intangible amortization expense of \$330,000 for fiscal year 2015. The basic and diluted shares outstanding used to calculate the pro forma net loss per share amount presented below were adjusted to assume shares issued at the closing of the acquisition of the Famcombe Entities were outstanding since the beginning of fiscal 2014.

Dollars in thousands except per share data	<b>Fiscal Year Ended</b>	
	<b>January 2, 2016</b>	
Revenue	\$	88,007
Net loss	\$	(5,932)
Net loss per share	\$	(0.68)
Weighted-average basic and diluted shares used in calculation of pro forma net loss per share (in thousands)		8,734

### **3. STRATEGIC ALLIANCE AND INVESTMENT BY ELUTIONS, INC.**

#### **Strategic Alliance and Investment by Elutions, Inc.**

On February 25, 2014, the Company entered into an investment agreement (the "Investment Agreement") with Elutions, a provider of operational business intelligence solutions. Under the Investment Agreement, the Company agreed to issue and sell shares of common stock to Elutions and to issue stock purchase warrants to Elutions, and the parties agreed that a subsidiary of Elutions would loan funds to a subsidiary of the Company. On March 18, 2014, the Company and Elutions completed the closing (the "Closing") of the transactions contemplated under the Investment Agreement.

At the Closing, (a) the Company issued and sold 609,756 shares of common stock to Elutions at a price of \$3.28 per share, for an aggregate purchase price of \$2,000,000, (b) the Company's subsidiary, Cartesian Limited, issued the Elutions Note, a promissory note payable to Elutions Capital Ventures S.à r.l, a subsidiary of Elutions, in an aggregate original principal amount of \$3,268,664, payable in equivalent Great Britain Pounds Sterling, and the Company issued to Elutions a Common Stock Purchase Warrant (Tracking) related to the Elutions Note to purchase 996,544 shares of common stock of the Company for \$3.28 per share (the "Tracking Warrant"), and (c) the Company issued to Elutions a Common Stock Purchase Warrant (Commercial Incentive) pursuant to which Elutions can earn the right to purchase up to 3,400,000 shares of common stock of the Company at prices ranging from \$3.85 per share to \$4.85 per share based on the Company's financial results related to certain customer contracts obtained jointly by the Company and Elutions (the "Incentive Warrant"). The Incentive Warrant and the Tracking Warrant are referred to collectively below as the "Warrants".

The Investment Agreement contains a number of agreements and covenants, including (i) certain affirmative and negative covenants relating to the Elutions Note applicable to the Company and its subsidiaries, (ii) an agreement of the Company to assign to Elutions certain customer contracts obtained jointly with Elutions if a competitor acquires control of the Company, (iii) confidentiality restrictions applicable to both parties, (iv) a standstill agreement of Elutions, (v) an agreement of the parties to negotiate in good faith for the purchase by Elutions of additional shares of Common Stock equal to 6.5% of outstanding shares from the Company or in open market purchases if Elutions then owns or is vested with the right to acquire 38.5% of the shares of Common Stock then outstanding, subject to any applicable stockholder approval requirements, (vi) the grant of a right of first offer to Elutions to loan funds to the Company in the future if the Company intends to incur or assume indebtedness, subject to certain exceptions, (vii) a grant of pre-emptive rights to Elutions with respect to future issuances and sales of equity securities by the Company, subject to certain exceptions, (viii) the right of Elutions to designate one member of the Board of Directors of the Company if it meets certain ownership thresholds, and (ix) restrictions on the issuance by the Company of options, warrants or similar rights or convertible securities, other than with respect to certain excluded issuances.

#### **Promissory Note**

The Elutions Note issued at Closing by the Company's subsidiary, Cartesian Limited, in the aggregate original principal amount of \$3,268,664, bears interest at the rate of 7.825% per year, payable monthly, and matures on March 18, 2019. The Elutions Note must be redeemed by Cartesian Limited upon notification by the holder at any time (the "Holder Redemption Option") and may be prepaid by Cartesian Limited at any time after September 18, 2016. The obligations of Cartesian Limited under the Elutions Note are guaranteed by the Company pursuant to a Guaranty entered into by the Company at Closing and are secured by certain assets relating to client contracts involving Elutions pursuant to a Security Agreement entered into by the Company and Elutions at Closing. Amounts outstanding under the Elutions Note may be applied to the exercise price of the Company's common stock under the Tracking Warrant. Upon occurrence of an event of default, the Elutions Note would bear interest at 9.825% per year and could be declared immediately due and payable. Interest expense for the fiscal years ended December 31, 2016 and January 2, 2016 was approximately \$259,000 and \$256,000, respectively.

#### **Tracking Warrant**

Under the Tracking Warrant, Elutions may acquire 996,544 shares of common stock of the Company for \$3.28 per share at any time and from time to time through March 18, 2020. The Company may require Elutions to exercise or forfeit the Tracking Warrant at any time (i) after 18 months if the trading price of the Company's common stock exceeds \$5.50 per share for a specified period of time and the Company meets certain cash and working capital thresholds and (ii) after 30 months if the Company meets certain cash and working capital thresholds. To the extent amounts are outstanding under the Elutions Note, Elutions and the Company (if the Company is requiring exercise of the Tracking Warrant by Elutions as described above) may offset such amounts against the exercise price for shares of common stock acquired under the Tracking Warrant. The Tracking Warrant expires if the Elutions Note is redeemed upon exercise of the Holder Redemption Option.

### **Incentive Warrant**

Under the Incentive Warrant, Elutions can earn the right to purchase up to 3,400,000 shares of common stock of the Company at prices ranging from \$3.85 per share to \$4.85 per share based on the Company's financial results as described below. The Incentive Warrant expires on March 18, 2020. The right to exercise the Incentive Warrant to acquire shares is subject to satisfaction of certain performance conditions based on revenues or cash received by the Company under customer contracts acquired jointly with Elutions through a five-year period from March 18, 2014 until March 18, 2019. The Incentive Warrant may vest upon satisfaction of the performance conditions during the five-year period. The number of shares of common stock for which the Incentive Warrant may vest during each fiscal quarter in the five-year period under the vesting provisions shall equal, without duplication, four percent of revenues recognized for such fiscal quarter or four percent of cash recognized or received by the Company during such quarter, for which revenues will be recognized in the future. In addition, the right to acquire shares may vest at the end of the five-year period for contracts that have been signed and with respect to which revenues are expected to be earned or cash is expected to be received after the end of the five-year period. The exercise price increases \$0.25 per year for shares earned in each year of the five-year period and is payable in cash, provided that Elutions has the right to utilize a cashless exercise procedure to acquire shares of common stock under the Incentive Warrant for a limited period of time each year after the right to acquire such shares vests. Any shares utilized to exercise such cashless exercise right will not reduce the maximum number of shares that may be earned and acquired under the Incentive Warrant.

### **Additional Warrant Provisions**

Each of the Warrants has economic anti-dilution protection provisions which provide for adjustments to the exercise price and the number of shares of common stock which may be acquired pursuant to the Warrants in the event of issuances of shares of common stock by the Company at a price less than the 30-day volume weighted average trading price at the time of issuance, subject to a number of exceptions. Each of the Warrants also permits Elutions (subject to certain exceptions) to purchase shares in future equity offerings made by the Company on a pro rata basis to all stockholders, with such participation right based upon the maximum number of shares that may be purchased under the Warrant.

### **Registration Rights**

At Closing, the Company and Elutions entered into a Registration Rights Agreement (the "Registration Rights Agreement"), pursuant to which the Company has obligations to register for resale the shares of common stock issued under the Investment Agreement and the Warrants. Under the Registration Rights Agreement, the Company granted certain piggyback registration rights to Elutions and agreed to file and maintain a resale shelf registration statement for the benefit of Elutions. The resale shelf registration was filed with the SEC on August 12, 2014 and was declared effective on August 26, 2014.

### **Commercial Relationship**

The Investment Agreement and the agreements and instruments described above are part of a strategic relationship between the Company and Elutions. As part of the strategic relationship, the parties entered into certain commercial framework documents, including a Market Development Agreement and related Inventory Agreement, on February 25, 2014, and enter into client agreements and bilateral agreements from time to time in the ordinary course of business outlining the terms of the parties' commercial relationship with respect to business development and providing products, solutions and services to clients. The parties have agreed to a term of five years, with automatic two-year renewals unless notice is given, and subject to termination rights in certain events. The Company has agreed to restrictions during the term and for two years thereafter in regard to solutions or services that are substantially similar to or competitive with certain solutions or services of Elutions, and each party has agreed not to hire the other party's employees during the same period.

The parties have agreed on a general framework for pursuing, entering into and implementing customer contracts, which includes providing for joint and separate client pursuits and marketing on an initial and ongoing basis, procedures for contracting with clients, procedures for interface between the parties, limited exclusivity requirements of Elutions relating to identified prospects and clients of the Company, intellectual property rights of Elutions to its products and related restrictions, restrictions regarding use of confidential information, limitations on liability of the parties, independent contractor status of the parties, limitations on publicity by the parties, and dispute resolution, including arbitration. The parties intend that specific pricing and allocation provisions and other specific commercial terms will be included in individual client statements of work, subject to mutually agreed gross margin requirements for the benefit of the Company. The parties also agreed to a framework for certain initial inventory orders and reorders by the Company from Elutions, and related commitments, timing and pricing procedures, when the Company is the prime contracting party under certain client statements of work. With respect to the required initial inventory order, the Company was required to purchase \$3.0 million of inventory from Elutions upon receiving a booked order for Smart Building Services of a certain size from a customer. As a result of a customer agreement entered into by the Company, during the third quarter of fiscal 2014, the Company acquired \$3.0 million in inventory from Elutions to fulfill its initial inventory commitment. As of December 31, 2016, the Company has not sold or licensed any of the initial inventory acquired from Elutions and has not acquired any additional inventory from Elutions.

Under the Market Development Agreement, if the Company had not sold 75% of such inventory acquired from Elutions within one year after acquisition, Elutions is required upon request of the Company to source its requirements for future projects in the U.S. or U.K. from such inventory subject to a 10% discount against the Company's purchase price until the Company has exhausted such inventory. In fiscal 2015, the Company requested that Elutions source its requirements for future projects from the inventory that was acquired by the Company from Elutions in July 2014. Management continues to work with Elutions to utilize the inventory and changes in management's expectations in future periods could impact the net realizable value of the inventory. See Note 1, Organization and summary of significant accounting policies for a discussion of the inventory recorded with respect to our agreements with Elutions.

Also under the Market Development Agreement, Elutions agreed to dedicate three full-time equivalent employees for the purpose of various functions related to the furtherance of the strategic alliance, and the Company agreed to fund the cost of the three full-time equivalent employees at a rate of \$36,750 per month. Pursuant to the Market Development Agreement, the Company terminated the provision of the three full-time equivalent employees effective in March 2016. For the fiscal years ended December 31, 2016 and January 2, 2016, expense related to these dedicated employees was \$98,500 and \$441,000, respectively.

In connection with the customer agreement entered into by the Company in 2014, the Company entered into a subcontract with Elutions. Under the subcontract, Elutions agreed to provide all services in accordance with the customer agreement except for project management services, to be provided by the Company. In January 2017, the Company entered into an amendment of the customer agreement and an amendment to the subcontract with Elutions. The amendments increase the number of customer sites deployed and extend the term of the original agreement. The Company currently estimates total additional license payments to Elutions under the amendment to the subcontract are approximately \$0.4 million and that the total remaining license payments to Elutions under the original subcontract, as amended by the amendment, are approximately \$1.2 million over the term of the subcontract, with additional amounts potentially payable to Elutions based upon energy savings achieved by the customer. Such amounts are recorded as managed services implementation costs which are included in Other current assets on the Consolidated Balance Sheet. See Note 1, Organization and Summary of Significant Accounting Policies. Elutions also agreed in the subcontract to provide all equipment required under the customer agreement, and the Company agreed to advance to Elutions \$400,000 of the equipment deployment cost. The advance amount was paid to Elutions during fiscal 2014. Elutions is required to repay the advanced amount plus interest at the rate of 5.5% per annum. The funds are netted directly from the customer's annual payments. During each of the fiscal years ended December 31, 2016 and January 2, 2016, the Company paid \$291,000 to Elutions related to annual payments under the subcontract. Each of these payments was net of \$112,000 related to the advanced amount in each fiscal year 2016 and 2015. As of December 31, 2016 the balance remaining for the advance to Elutions was \$200,000 of which \$100,000 was included in Other current assets and \$100,000 was included in Other noncurrent assets on the Consolidated Balance Sheets. As of January 2, 2016, the balance remaining for the advance to Elutions was \$300,000 of which \$100,000 was included in Other current assets and \$200,000 was included in Other noncurrent assets on the Consolidated Balance Sheets.

## Accounting Treatment

The Holder Redemption Option was determined to be an embedded derivative liability that was required to be bifurcated and recorded as a liability. In addition, the Company determined that the provision of the Elutions Note that permits Cartesian Limited to prepay the Elutions Note after 18 months if the trading price of the Company's common stock exceeds \$5.50 per share for a specified period of time and to prepay the Elutions Note after 30 months are each an embedded derivative asset that requires bifurcation (the "Issuer Call Option"). As of December 31, 2016 and January 2, 2016, the fair value of the Issuer Call Option was determined to be immaterial. The carrying value of the Elutions Note as of December 31, 2016 and January 2, 2016 was \$3,269,000 and as of December 31, 2016 and January 2, 2016 the fair value of the Elutions Note was \$2,703,000 and \$3,004,000, respectively. The Incentive Warrant and Tracking Warrant are accounted for as equity instruments. See Note 10, Fair Value Measurements for discussion of the determination of fair values.

The vesting of the Incentive Warrant is contingent on services to be provided by Elutions and the achievement of performance conditions by Elutions. During fiscal years 2016 and 2015, Elutions earned 27,194 and 34,248 vested shares under the Incentive Warrant and the Company recognized \$53,000 and \$63,000 of expense related to these vested shares, respectively.

## 4. GOODWILL AND INTANGIBLE ASSETS

The changes in the carrying amount of goodwill for the fiscal year ended December 31, 2016 are as follows (in thousands):

	North America	EMEA	Total
Balance as of January 2, 2016	\$ 3,947	\$ 7,124	\$ 11,071
Goodwill impairment	(3,947)	(6,883)	(10,830)
Changes in foreign currency exchange rates	—	(241)	(241)
Balance as of December 31, 2016	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>

The Company performs its impairment testing for goodwill in accordance with FASB ASC 350, "Intangibles-Goodwill and Other." The goodwill impairment test involves a two-step process. The first step is a comparison of the reporting unit's fair value to its carrying value. If the reporting unit's fair value is less than its carrying value, the Company would be required to progress to the second step. In the second step, the Company calculates the implied fair value of goodwill and compares the implied fair value of goodwill to the carrying amount of goodwill on the Company's balance sheet. If the carrying amount of the goodwill is greater than the implied fair value of that goodwill, an impairment loss would be required to be recognized in an amount equal to that excess.

The Company evaluates goodwill for impairment on an annual basis on the last day of the first fiscal month of the fourth quarter and whenever events or circumstances indicate that these assets may be impaired. Due to a significant decrease in the Company's stock price during the second quarter of fiscal 2016, the Company performed the first step of the goodwill impairment test. Based on the results of the first step of the goodwill impairment test, the estimated fair value of the reporting units did not exceed their carrying value and therefore step two of the test was required. Based on the results of the second step of the goodwill impairment test (i.e., applying the income approach and market approach described under Note 1, Organization and Summary of Significant Accounting Policies - *Goodwill*), the Company determined, as of July 2, 2016, that the implied fair value of goodwill was less than the carrying value, which resulted in goodwill impairment of \$10.8 million, representing all of that goodwill. The facts and circumstances that led to the impairment of goodwill were primarily a result of the decreased market value of the Company based upon the market price of the Company's common stock.

The following table summarizes the changes in the major classes of intangible assets for the fiscal year ended December 31, 2016 (in thousands).

<b>Gross Carrying Amount:</b>	<b>Tradenname</b>	<b>Non-Compete Agreements</b>	<b>Customer Relationships</b>	<b>Total</b>
Balance as of January 2, 2016	\$ 86	\$ 57	\$ 1,055	\$ 1,198
Changes in foreign currency exchange rates	(15)	(9)	(174)	(198)
Balance as of December 31, 2016	\$ 71	\$ 48	\$ 881	\$ 1,000
<b>Accumulated Amortization:</b>				
Balance as of January 2, 2016	\$ (71)	\$ (5)	\$ (126)	\$ (202)
Changes in foreign currency exchange rates	9	2	49	60
Amortization expense	(9)	(12)	(280)	(301)
Balance as of December 31, 2016	\$ (71)	\$ (15)	\$ (357)	\$ (443)

The identifiable intangible assets in the table above resulted from the July 2015 acquisition of the Famcombe Entities and their balances include the effects of foreign currency translation. This acquisition is discussed further in Note 2, Acquisition. Tradename, non-competitve agreements and customer relationships carry amortization periods of six months, four and one-half years and three and one-half years, respectively. The amortization periods are based on the period of expected cash flows used to measure the fair value of the intangible assets.

Aggregate amortization expense related to intangible assets was \$301,000 and \$208,000 for fiscal years 2016 and 2015, respectively. The following table outlines the estimated future amortization expense related to amortizing intangible assets as of December 31, 2016.

	<b>(in thousands)</b>
2017	\$ 262
2018	262
2019	32
2020	1
	<u>\$ 557</u>

## 5. SHARE-BASED COMPENSATION

The Company estimates the fair value of its stock options and stock issued under the Employee Stock Purchase Plan using the Black-Scholes option pricing model. Groups of employees or non-employee directors that have similar historical and expected exercise behavior are considered separately for valuation purposes. Assumptions used in estimating the fair value of stock options granted include risk-free interest rate, expected life, expected volatility factor, and expected dividend rate. The risk-free interest rate is based on the U.S. Treasury yield at the time of grant for a term equal to the expected life of the stock option; the expected life is determined using the simplified method of estimating the life as allowed under Staff Accounting Bulletin No. 110; and the expected volatility is based on the historical volatility of the Company's stock price for a period of time equal to the expected life of the stock option.

With the exception of the service-based non-vested share awards and the performance-based non-vested share awards discussed below, nearly all of the Company's share-based compensation arrangements utilize graded vesting schedules where a portion of the grant vests annually over a period of two to four years. The Company has a policy of recognizing compensation expense for awards with graded vesting over the requisite service period for each separately vesting portion of the award as if the award was, in-substance, multiple awards. This policy has the effect of accelerating the recognition of expense when compared to a straight-line amortization methodology.

As of December 31, 2016, the Company has two share-based compensation plans under which awards are outstanding, which are described below. The Company recognized an income tax benefit of \$40,000 related to share-based compensation arrangements during fiscal year 2015. No income tax benefit was recognized in fiscal 2016 due to the full valuation allowance on the Company's deferred tax assets. In addition, no compensation costs related to these arrangements were capitalized in either year. The Company has historically issued and expects to continue to issue new shares to satisfy stock option exercises, vesting of non-vested shares or purchases of shares under the Employee Stock Purchase Plan.

## EQUITY INCENTIVE PLAN

The Company's Equity Incentive Plan, as amended and restated, (the "Equity Plan"), is a stockholder approved plan, which provides for the granting of incentive stock options and nonqualified stock options to employees, and nonqualified stock options, nonvested stock, and restricted stock units to employees, directors and consultants. The Equity Plan is scheduled to expire in June 2025. As of December 31, 2016, the Company has 1,499,442 shares of the Company's common stock available for issuance upon exercise of outstanding options or for future awards under the Equity Plan.

### Stock Options

*Service-Based Stock Option Awards* – Stock options are granted at an exercise price of not less than market value per share of the common stock on the date of grant as determined by the Board of Directors. Vesting and exercise provisions are determined by the Board of Directors.

As of December 31, 2016, all options granted under the Equity Plan were non-qualified stock options. Service-based options generally become exercisable over a one to four year period beginning on the date of grant and have a maximum term of ten years.

A summary of the service-based stock option activity of the Company's Equity Plan as of December 31, 2016 and changes during the fiscal year then ended is presented below:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding at January 2, 2016	244,553	\$ 8.06		
Granted	37,500	\$ 1.10		
Forfeited/cancelled	(69,291)	\$ 7.82		
Outstanding at December 31, 2016	<u>212,762</u>	<u>\$ 6.91</u>	4.3 years	\$ —
Options vested and expected to vest at December 31, 2016	<u>201,512</u>	<u>\$ 7.18</u>	4.0 years	\$ —
Options exercisable at December 31, 2016	<u>150,261</u>	<u>\$ 8.85</u>	2.4 years	\$ —

The Company granted a service-based stock option award for 37,500 shares of the Company's common stock having an exercise price of \$1.10 per share during fiscal year 2016. The stock option vests solely based on employee service over a three year period. No other service-based stock option awards were granted during fiscal years 2016 or 2015. The Company recorded share-based compensation expense in connection with service-based stock option awards of \$16,000 and \$56,000 during fiscal years 2016 and 2015, respectively. As of December 31, 2016, there was \$26,000 of unrecognized share-based compensation expense, net of estimated forfeitures, related to service-based stock option awards, and this unrecognized expense is expected to be recognized over a weighted average period of 23 months. As of January 2, 2016, there was \$20,000 of unrecognized share-based compensation expense, net of estimated forfeitures, related to service-based stock option awards.

*Market Condition Stock Option Awards* – A summary of the market condition stock option activity under the Equity Plan, as of December 31, 2016 and changes during the fiscal year then ended is presented below:

	Shares	Weighted Average Exercise Price
Outstanding at January 2, 2016	200,000	\$ 3.34
Granted	125,000	\$ 1.25
Outstanding at December 31, 2016	325,000	\$ 2.54
Options vested and expected to vest at December 31, 2016	325,000	\$ 2.54
Options exercisable at December 31, 2016	—	\$ —

On September 28, 2016, the Company granted non-qualified stock option awards for 125,000 shares of the Company’s common stock having an exercise price of \$1.25 per share. On June 16, 2015 the Company granted a non-qualified stock option award for 200,000 shares of the Company’s common stock having an exercise price of \$3.34 per share. These stock options will vest only if the price of the Company’s common stock reaches certain price targets, as follows:

- the stock option will vest with respect to 116,666 shares if at any time the closing market price of the Company’s common stock on each day during a 30 consecutive trading day period equals or exceeds \$4.00 per share;
- the stock option will vest with respect to an additional 116,667 shares if at any time the closing market price of the Company’s common stock on each day during a 30 consecutive trading day period equals or exceeds \$5.00 per share; and
- the stock option will vest with respect to an additional 91,667 shares if at any time the closing market price of the Company’s common stock on each day during a 30 consecutive trading day period equals or exceeds \$6.00 per share.

For stock options which contain market conditions, the market conditions are required to be considered when calculating the grant date fair value. FASB ASC 718 – “*Compensation – Stock Compensation*,” requires us to select a valuation technique that best fits the circumstances of an award. In order to reflect the substantive characteristics of the market condition option award, a Monte Carlo simulation valuation model was used to calculate the grant date fair value of such stock options. Monte Carlo approaches are a class of computational algorithms that rely on repeated random sampling to compute their results. This approach allows the calculation of the value of such stock options based on a large number of possible stock price path scenarios. Expense for the market condition stock options is recognized over the derived service period as determined through the Monte Carlo simulation model. The fair value and derived service periods calculated for this market condition stock option award by vesting tranche for the market condition stock option awards granted in September 2016 were as follows:

	Grant Date Fair Value Per Share	Derived Service Period (in Years)
\$4.00 market condition tranche	\$ 0.32	5.1
\$5.00 market condition tranche	\$ 0.31	5.5
\$6.00 market condition tranche	\$ 0.30	5.9

The fair value and derived service periods calculated for this market condition stock option award by vesting tranche for the market condition stock option awards granted in June 2015 were as follows:

	<b>Grant Date Fair Value Per Share</b>	<b>Derived Service Period (in Trading Days)</b>
\$4.00 market condition tranche	\$ 1.95	151
\$5.00 market condition tranche	\$ 1.95	262
\$6.00 market condition tranche	\$ 1.99	362

During fiscal years 2016 and 2015 the Company recorded \$144,000 and \$250,000 of share-based compensation expense in connection with this market condition stock option award. As of December 31, 2016 and January 2, 2016, there was \$37,000 and \$142,000 of unrecognized share-based compensation expense, net of estimated forfeitures, related to the market condition stock option awards, respectively. As of December 31, 2016, the unrecognized expense is expected to be recognized over a weighted average period of 24 months.

#### *Non-vested Shares*

*Service-Based Non-vested Share Awards* - A summary of the status of service-based non-vested share awards issued under the Equity Plan as of December 31, 2016 and changes during the fiscal year then ended is presented below:

	<b>Shares</b>	<b>Weighted Average Grant Date Fair Value per share</b>
Outstanding at January 2, 2016	—	\$ —
Granted	172,422	\$ 0.71
Outstanding at December 31, 2016	172,422	\$ 0.71

On July 22, 2016, the Company granted 40,000 shares of service-based non-vested stock that vest one year from the date of grant. These service-based non-vested share awards are valued at the date of grant based on the closing market price of the Company's common stock, and are expensed using the straight-line method over the requisite service period (which is the vesting period of the award). During fiscal year 2016, the Company recorded \$13,000 of stock-based compensation expense in connection with these service-based non-vested share awards. As of December 31, 2016, there is an estimated \$16,000 of unrecognized stock-based compensation expense, net of estimated forfeitures, related to these service-based non-vested share awards, and this unrecognized expense is expected to be recognized over a period of 7 months.

On July 22, 2016 and October 3, 2016, the Company also granted 59,922 and 72,500 shares, respectively, of service-based non-vested stock to non-employees for services provided under consulting agreements which have three-year terms. In accordance with ASC 718, the fair value measurement date for these non-vested stock awards is the performance completion date. The fair value of the awards granted to the non-employee consultants will be remeasured each reporting period based on their fair value at that time up to the performance completion date. The changes in fair value each reporting period will be recognized in the Consolidated Statements of Operations. During fiscal year 2016, the Company recorded \$25,000 of stock-based compensation expense in connection with these service-based non-vested share awards. As of December 31, 2016, there is an estimated \$96,000 of unrecognized stock-based compensation expense, net of estimated forfeitures, related to these service-based non-vested share awards, and this unrecognized expense is expected to be recognized over a period of 32 months.

*Performance-Based Non-vested Share Awards* - A summary of the status of performance-based non-vested share awards issued under the Equity Plan as of December 31, 2016 and changes during the fiscal year then ended is presented below:

	Shares	Weighted Average Grant Date Fair Value per share
Outstanding at January 2, 2016	250,215	\$ 3.15
Forfeited	(77,558)	\$ 3.14
Outstanding at December 31, 2016	172,657	\$ 3.14

On July 22, 2015, the Company granted 58,940 shares of non-vested stock to two employees that vests on July 1, 2017 in proportion to the earn-out consideration paid pursuant to the Purchase Agreement for the acquisition of the Famcombe Entities described in Note 2, Acquisition. Except for termination of employment in certain circumstances following a change of control, the unvested portion of an award is forfeited upon any termination of employment. Under the terms of the awards, vesting is accelerated upon a change of control of the Company. If the vesting percentage is less than 100% on the vesting date, that percentage of the non-vested stock that does not vest as of the vesting date shall be forfeited.

On April 8, 2013, the Company granted performance-based non-vested share awards for a total of 800,000 shares of Common Stock to various executive officers and employees of the Company that vest in proportion to the ratio that the Company's "Cumulative Net Non-GAAP EBITDA" achieved over a four-year performance period compares to the Cumulative Net Non-GAAP EBITDA goal of \$14 million. All 800,000 non-vested shares had a grant date fair value of \$3.14 per share. The first potential vesting date was the Company's earnings release date for its 2014 first fiscal quarter and each subsequent potential vesting date is each of the Company's quarterly earnings release dates thereafter through the release date for the first quarter of fiscal year 2017. Shares not vested as of the release date for the first quarter of fiscal year 2017 are forfeited. Except for termination of employment in certain circumstances following a change of control, the unvested portion of an award is forfeited upon any termination of employment. Under the terms of an award, vesting is partially accelerated and the award is converted to a time-vested award upon a change of control of the Company.

Share-based compensation cost for performance-based non-vested share awards is measured at the grant date based on the fair value of shares expected to be earned at the end of the performance period, based on the closing market price of the Company's common stock on the date of grant, and is recognized as expense using the straight-line method over the performance period based upon the probable number of shares expected to vest. The Company estimates and excludes compensation cost related to awards not expected to vest based upon estimated forfeitures. The Company does not believe it is probable that one-hundred percent of the performance conditions related to its outstanding performance-based non-vested share awards will be achieved. Based on this assumption, the Company recorded a reduction to expense of approximately \$250,000 during the fourth quarter of fiscal 2015 to reflect revised estimates related to the ultimate number of shares expected to vest. During fiscal years 2016 and 2015, the Company recorded \$88,000 of expense and \$170,000 of income, respectively, in connection with performance-based non-vested share awards. As of December 31, 2016, there was an estimated \$46,000 of unrecognized share-based compensation expense, net of estimated forfeitures, related to performance-based non-vested share awards. Unrecognized compensation cost as of December 31, 2016 related to performance-based non-vested share awards is expected to be recognized over a period of 3 months.

## 2000 SUPPLEMENTAL STOCK PLAN

The Supplemental Stock Plan expired May 23, 2010. The outstanding awards issued pursuant to the Supplemental Stock Plan will remain subject to the terms of the Supplemental Stock Plan following expiration of the plan. The Supplemental Stock Plan provided the Company's common stock for the granting of nonqualified stock options to employees and was not subject to stockholder approval. Vesting and exercise provisions were determined by the Board of Directors. Options granted under the plan generally become exercisable over a period of up to four years beginning on the date of grant and have a maximum term of ten years.

A summary of the option activity under the Company's Supplemental Stock Plan as of December 31, 2016 and changes during the fiscal year then ended is presented below:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding at January 2, 2016	36,900	\$ 11.11		
Forfeited/cancelled	(6,800)	\$ 11.36		
Outstanding at December 31, 2016	30,100	\$ 11.06	0.5 years	\$ —
Options vested and exercisable at December 31, 2016	30,100	\$ 11.06	0.5 years	\$ —

No awards have been granted under the Supplemental Stock Plan since it expired on May 23, 2010. There were no options exercised during fiscal year 2016 or fiscal year 2015. As of December 31, 2016 there was no remaining unrecognized compensation cost related to the unvested portion of stock options issued under the Supplemental Stock Plan.

#### PUT OPTION

In connection with the Company's approval of the separation from service of the Company's Chief Executive Officer on June 3, 2015, the Company issued a put option to the former executive which granted him the option and right to sell to the Company up to 112,692 of his shares of the Company's common stock owned on June 3, 2015 at \$4.50 per share (the "Put Option"). This transaction was accounted for under FASB ASC 718 under the tandem award approach with both liability and equity components. The liability component relates to the holder's right to sell the shares to the Company and the equity component relates to a call option feature related to the holder's right not to exercise the Put Option. The fair value of the components of the Put Option was calculated using the Black-Scholes model using the following assumptions.

	Issuance Date
Common stock price	\$ 3.30
Dividend yield	0.0%
Exercise price of put option	\$ 4.50
Expected term	0.78 years
Risk-free interest rate	0.20%
Estimated stock volatility	55%

Approximately \$33,000, or \$0.29 per share, related to the call option component was recorded as an increase to Additional paid in capital on the Consolidated Statements of Stockholders' Equity for fiscal year 2015. For fiscal year 2015, approximately \$168,000, or \$1.49 fair value per share of the put feature, was recorded as share-based compensation expense in Selling, general and administrative expense on the Consolidated Statements of Operations and Comprehensive Loss. Approximately \$372,000, or \$3.30 per share, related to the market value of the shares subject to the Put Option as of the issue date was recorded as a reduction of Additional paid in capital on the Consolidated Statements of Stockholders' Equity for fiscal year 2015.

In November 2015 the holder of the Put Option exercised the Put Option and the Company purchased approximately 90,000 shares at \$4.50 for a total of approximately \$405,000. As of January 2, 2016, the balance related to the liability component of the Put Option was approximately \$102,000 and was included in Other accrued liabilities in the Consolidated Balance Sheets. In March 2016, the holder of the Put Option exercised the Put Option and in April 2016, the Company purchased approximately 19,000 shares at \$4.50 for a total of approximately \$85,000. The Put Option expired on March 15, 2016.

## EMPLOYEE STOCK PURCHASE PLAN

Under the Employee Stock Purchase Plan (ESPP), shares of the Company's common stock may be purchased at six-month intervals at 85% of the lower of the fair market value on the first day of the enrollment period or on the last day of each six-month period over the subsequent two years. Employees may purchase shares through a payroll deduction program having a value not exceeding 15% of their gross compensation during an offering period. During fiscal years 2016 and 2015, the Company recognized net expense of \$17,000 and \$17,000, respectively, in accordance with FASB ASC 718 associated with the ESPP.

## 6. SUPPLEMENTAL BALANCE SHEET INFORMATION

Accrued payroll, bonuses and related expenses and Other accrued liabilities consist of the following (amounts in thousands):

	December 31, 2016	January 2, 2016
Accrued payroll, bonuses and related expenses		
Accrued payroll	\$ 313	\$ 448
Accrued bonuses	2,060	3,205
Accrued payroll taxes	515	636
Accrued vacation	494	539
Accrued severance	117	—
Other	253	297
	<u>\$ 3,752</u>	<u>\$ 5,125</u>
Other accrued liabilities		
Sales and value-added taxes payable	\$ 911	\$ 478
Lease termination liability	103	135
Put option liability	—	102
Accrued income taxes	152	376
Accrued acquisition consideration	32	327
Accrued professional fees	182	604
Other	737	229
	<u>\$ 2,117</u>	<u>\$ 2,251</u>

## 7. BUSINESS SEGMENTS, MAJOR CUSTOMERS AND SIGNIFICANT GROUP CONCENTRATIONS OF CREDIT RISK

The Company identifies its segments based on the way management organizes the Company to assess performance and make operating decisions regarding the allocation of resources. In accordance with the criteria in FASB ASC 280 "Segment Reporting," the Company has concluded it has three reportable segments: the North America segment, the EMEA segment and the Strategic Alliances segment. The North America and EMEA segments are both single reportable, operating segments that encompass the Company's operational, technology and software consulting services inside of North America and outside of North America, respectively. Both reportable segments offer management consulting, custom developed software, and technical services. The Strategic Alliances reportable segment is a single, reportable segment that includes the Company's world-wide commercial activities undertaken with third-party service or solutions providers. The Famcombe Entities, acquired on July 22, 2015 are included in the EMEA segment.

Management evaluates segment performance based upon income (loss) from operations, excluding share-based compensation (benefits) and depreciation. There were no inter-segment revenues during fiscal years 2016 and 2015. In addition, in its administrative division, entitled "Not Allocated to Segments," the Company accounts for non-operating activity and the costs of providing corporate and other administrative services to all the segments, including, but not limited to, goodwill impairment, share-based compensation expense, depreciation expense, certain research and development costs, and costs related to the arbitration with the Company's former Chief Executive Officer. See Note 13, Commitments and Contingencies, for additional discussion of the arbitration costs. Summarized financial information concerning the Company's reportable segments is shown in the following table (amounts in thousands):

	North America	EMEA	Strategic Alliances	Not Allocated to Segments	Total
As of and for the fiscal year ended December 31, 2016:					
Revenues	\$ 28,065	\$ 42,894	\$ 780	\$ —	\$ 71,739
Income (loss) from operations	6,255	6,837	(181)	(26,737)	(13,826)
Total other expense	—	—	—	(305)	(305)
Income (loss) before income tax provision (benefit)	6,255	6,837	(181)	(27,042)	(14,131)
Depreciation and amortization	—	—	—	1,295	1,295
Total assets	\$ 3,378	\$ 10,113	\$ 550	\$ 8,660	\$ 22,701

As of and for the fiscal year ended January 2, 2016:					
Revenues	\$ 34,025	\$ 43,844	\$ 475	\$ —	\$ 78,344
Income (loss) from operations	8,222	5,884	(2,982)	(17,330)	(6,206)
Total other expense	—	—	—	(899)	(899)
Income (loss) before income tax provision (benefit)	8,222	5,884	(2,982)	(18,229)	(7,105)
Depreciation and amortization	—	—	—	952	952
Total assets	\$ 6,831	\$ 9,725	\$ 626	\$ 24,177	\$ 41,359

Segment assets, regularly reviewed by management as part of its overall assessment of the segments' performance, include both billed and unbilled trade accounts receivable, net of allowances, inventory, and certain other assets, if applicable. Assets not assigned to segments include cash and cash equivalents, current and non-current investments, property and equipment, goodwill and intangible assets and deferred tax assets, excluding deferred tax assets recognized on accounts receivable reserves, which are assigned to their segments.

In accordance with the provisions of FASB ASC 280-10, revenues earned in the United States and internationally based on the location where the services are performed are shown in the following table (amounts in thousands):

	Revenues	
	Fiscal Year 2016	Fiscal Year 2015
United States	\$ 29,348	\$ 34,511
International:		
United Kingdom	38,123	41,399
Other	4,268	2,434
Total	\$ 71,739	\$ 78,344

In accordance with the provisions of FASB ASC 280-10, long-lived assets, excluding intangible assets, by geographic area are shown in the following table (amounts in thousands):

	Long-Lived Assets	
	December 31, 2016	January 2, 2016
United States	\$ 2,154	\$ 2,611
United Kingdom	217	346
France	10	12
Total	\$ 2,381	\$ 2,969

Major customers in terms of significance to Cartesian's revenues (i.e. in excess of 10% of revenues) for fiscal years 2016 and 2015 and accounts receivable as of December 31, 2016 and January 2, 2016 were as follows (amounts in thousands):

	<b>Revenues</b>			
	<b>Fiscal Year 2016</b>		<b>Fiscal Year 2015</b>	
	<b>North America</b>	<b>EMEA</b>	<b>North America</b>	<b>EMEA</b>
Customer A		\$ 16,022		\$ 16,243
Customer B	\$ 11,933		\$ 13,377	
Customer C		\$ 8,345		\$ 18,906

	<b>Accounts Receivable</b>			
	<b>December 31, 2016</b>		<b>January 2, 2016</b>	
	<b>North America</b>	<b>EMEA</b>	<b>North America</b>	<b>EMEA</b>
Customer A		\$ 3,317		\$ 3,577
Customer B		\$ 1,100		\$ 1,423
Customer C		\$ 779		\$ 1,510

Revenues from the Company's ten most significant customers accounted for approximately 77% and 87% of revenues in fiscal years 2016 and 2015, respectively.

Substantially all of Cartesian's receivables are obligations of companies in the communications, media and entertainment industries. The Company generally does not require collateral or other security on its accounts receivable. The credit risk on these accounts is controlled through credit approvals, limits and monitoring procedures. The Company records bad debt expense based on judgment about the anticipated default rate on receivables owed to Cartesian at the end of the reporting period. That judgment is based on the Company's uncollected account experience in prior years and the ongoing evaluation of the credit status of Cartesian's customers and the communications industry in general.

## 8. PROPERTY AND EQUIPMENT

	<b>December 31, 2016</b>	<b>January 2, 2016</b>
	(In thousands)	
Furniture and fixtures	\$ 1,708	\$ 1,748
Software and computer equipment	4,953	8,006
Leasehold improvements	1,098	1,500
	7,759	11,254
Less: Accumulated depreciation	5,703	8,743
	<u>\$ 2,056</u>	<u>\$ 2,511</u>

Depreciation expense on property and equipment was \$994,000 and \$952,000 for fiscal years 2016 and 2015, respectively.

## 9. INCOME TAXES

For fiscal years 2016 and 2015, income (loss) before income taxes consisted of the following (amounts in thousands):

	<b>Fiscal Year 2016</b>	<b>Fiscal Year 2015</b>
United States	\$ (7,358)	\$ (9,321)
Foreign	(6,773)	2,216
<b>Total income (loss) before income taxes</b>	<b>\$ (14,131)</b>	<b>\$ (7,105)</b>

For fiscal years 2016 and 2015, the income tax benefit (provision) consists of the following (amounts in thousands):

	<b>Fiscal Year 2016</b>	<b>Fiscal Year 2015</b>
Federal deferred tax expense, net	\$ 655	\$ (99)
State deferred tax benefit (expense), net	125	42
Foreign current tax expense	(48)	(263)
Foreign deferred tax (expense) benefit, net	(484)	(266)
<b>Total income tax (expense) benefit</b>	<b>\$ 248</b>	<b>\$ (586)</b>

During fiscal years 2016 and 2015, the Company recorded an income tax benefit of \$0.2 million and an income tax provision of \$0.6 million, respectively. The income tax benefit for fiscal 2016 was primarily related to a \$0.8 million domestic benefit recognized in connection with adjustments to domestic deferred taxes related to the impairment of goodwill amortized for income tax purposes but not for financial reporting purposes netted with a \$0.6 million international expense recognized in connection with the international valuation allowance in fiscal 2016. The income tax provision for fiscal year 2015 was primarily related to the generation of pre-tax book income within the Company's U.K. operations in addition to deferred taxes recognized on goodwill amortized for income tax purposes but not for financial reporting purposes. The Company recorded a current tax expense of \$0.3 million during fiscal 2015 related to the generation of positive pre-tax book income within newly acquired U.K. entities which did not have net operating loss carryforwards to utilize.

The Company has reserved all of its domestic and international net deferred tax assets as of December 31, 2016 and had reserved all of its domestic deferred tax assets as of January 2, 2016 with a valuation allowance in accordance with the provisions of FASB ASC 740, "Income Taxes," which requires an estimation of the recoverability of the recorded income tax asset balances. Related to the going concern assertion, the Company reserved all of its international net deferred tax assets as of December 31, 2016 with a valuation allowance. As of December 31, 2016 and January 2, 2016, the Company had recorded \$36.6 million and \$34.1 million, respectively, of valuation allowances attributable to its domestic and international net deferred tax assets. The determination of recording and releasing valuation allowances against deferred tax assets is made, in part, pursuant to the Company's assessment as to whether it is more likely than not that the Company will generate sufficient future taxable income against which benefits of the deferred tax assets may or may not be realized. Significant judgment is required in making estimates regarding the Company's ability to generate income in future periods.

Realization of deferred tax assets is dependent on generating sufficient income in future periods. In evaluating the ability to use its deferred tax assets, the Company considers all positive and negative evidence including the Company's past operating results, the existence of cumulative losses in the most recent three fiscal years and the Company's forecast of future income. In determining future income, the Company is responsible for assumptions utilized including the amount of state, federal and international operating income, the reversal of temporary differences and the implementation of feasible and prudent tax planning strategies. These assumptions require significant judgment about the forecasts of future income and are consistent with the plans and estimates the Company is using to manage the underlying business.

The following is a reconciliation between the benefit (provision) for income taxes and the amounts computed based on loss before income taxes at the statutory federal income tax rate (amounts in thousands):

	Fiscal Year 2016		Fiscal Year 2015	
	Amount	%	Amount	%
Computed expected federal income tax benefit	\$ 4,805	34.0	\$ 2,413	34.0
State income tax benefit, net of federal benefit	68	0.5	514	7.2
Rate differential on foreign operations	(1,002)	(7.1)	296	4.2
Forfeited vested stock options	(281)	(2.0)	(267)	(3.8)
Tax benefits associated with share-based awards	179	1.3	12	0.2
Adjustment to estimated tax loss carryforward	(418)	(3.0)	(226)	(3.2)
Change in statutory and applicable tax rates	505	3.6	(518)	(7.3)
Non-deductible expenses	(25)	(0.2)	(753)	(10.6)
Goodwill impairment	(1,257)	(8.9)	—	—
Other	113	0.8	(26)	(0.4)
Change in valuation allowance	(2,439)	(17.3)	(2,031)	(28.6)
Total income tax benefit (expense)	\$ 248	1.7	\$ (586)	(8.3)

The significant components of deferred income tax assets and the related balance sheet classifications, as of December 31, 2016 and January 2, 2016, are as follows (amounts in thousands):

	December 31, 2016	January 2, 2016
Deferred tax assets:		
Accounts receivable	\$ 119	\$ 67
Accrued expenses	845	1,040
Goodwill and intangible assets	1,492	1,143
Share-based compensation expense	664	551
Net operating loss carryforward	31,031	29,894
Inventories	1,068	—
Foreign tax credit carryforward	1,006	1,006
Deferred revenue	357	—
Other	(24)	224
Total deferred tax assets	36,558	33,925
Valuation allowance	(36,558)	(34,116)
Net deferred tax asset	\$ —	\$ (191)

As of December 31, 2016, the Company has U.S. Federal net operating loss carryforwards of \$81.9 million which begin expiring in 2020. As of December 31, 2016, the Company has state net operating loss carryforwards of \$46.1 million. These net operating losses expire at various times between 2017 and 2036. In addition, as of December 31, 2016, the Company has foreign net operating loss carryforwards of \$2.7 million all of which primarily have no expiration date. As of December 31, 2016, the Company has net foreign tax credits of \$1.0 million. If unutilized, the expiration of these foreign tax credits is \$317,000 and \$689,000 in fiscal years 2018 and 2019, respectively.

U.S. income and foreign withholding taxes have not been recognized on the excess of the amount for financial reporting over the tax basis of investments in foreign subsidiaries that is indefinitely reinvested outside the United States. This amount becomes taxable upon a repatriation of assets from the subsidiary or a sale or liquidation of the subsidiary. Determination of the amount of any unrecognized deferred income tax liability on this temporary difference is not practicable because of the complexities of the hypothetical calculation.

The Company analyzes its uncertain tax positions pursuant to the provisions of FASB ASC 740 "Income Taxes" that prescribes a two-step process to determine the amount of tax benefit to be recognized. First, the tax position must be evaluated to determine the likelihood that it will be sustained based on its technical merit. If the tax position is deemed "more-likely-than-not" to be sustained, the tax position is then assessed to determine the amount of benefit to recognize in the financial statements. The amount of the benefit that may be recognized is the largest amount that has a greater than 50 percent likelihood of being realized upon ultimate settlement with the taxing authority. Tax positions that previously failed to meet the more-likely-than-not recognition threshold should be recognized in the first subsequent financial reporting period in which that threshold is met. Previously recognized tax positions that no longer meet the more-likely-than-not recognition threshold should be derecognized in the first subsequent financial reporting period in which that threshold is no longer met.

As of December 31, 2016 and January 2, 2016, the Company had no recorded liability for uncertain tax positions.

The Company or one of its subsidiaries files income tax returns in the U.S. federal jurisdiction, and various state and foreign jurisdictions. With few exceptions, the Company is no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations by tax authorities for years before 2000. As of December 31, 2016, the Company has no income tax examinations in process.

## 10. FAIR VALUE MEASUREMENTS

The Company utilizes the methods of fair value measurement as described in FASB ASC 820, "*Fair Value Measurements*" to value its financial assets and liabilities, including the financial instruments issued in the transaction described in Note 3, Strategic Alliance and Investment by Elutions, Inc. and the contingent consideration liability described in Note 2, Acquisition. As defined in FASB ASC 820, fair value is based on the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In order to increase consistency and comparability in fair value measurements, FASB ASC 820 establishes a fair value hierarchy that prioritizes observable and unobservable inputs used to measure fair value into three broad levels, which are described below:

*Level 1:* Quoted prices (unadjusted) in active markets that are accessible at the measurement date for assets or liabilities. The fair value hierarchy gives the highest priority to Level 1 inputs.

*Level 2:* Observable prices that are based on inputs not quoted on active markets, but corroborated by market data.

*Level 3:* Unobservable inputs are used when little or no market data is available. The fair value hierarchy gives the lowest priority to Level 3 inputs.

In determining fair value, the Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible as well as considers counterparty credit risk in its assessment of fair value.

### *Recurring Fair Value Measurements*

The fair value of the Company's Elutions Note and the Holder Redemption Option were determined using a binomial lattice model. (See Note 3, Strategic Alliance and Investment by Elutions, Inc., for further discussion of the Elutions Note and Holder Redemption Option.) The Holder Redemption Option was determined to be an embedded derivative liability that was required to be bifurcated and recorded as a liability.

The Company has classified the Holder Redemption Option and Elutions Note as Level 3 liabilities. Changes in the fair value of the Holder Redemption Option are recognized in the Consolidated Statements of Operations and Comprehensive Loss. The Company reassesses the fair value of this liability on a quarterly basis. Based on that assessment, the Company recognized increases of \$18,000 and \$615,000 in the fair value of this liability during the fiscal years ended December 31, 2016 and January 2, 2016, respectively. To determine the fair value of the Holder Redemption Option, management evaluates assumptions that require significant judgment. Changes in certain inputs to the valuation model, including the Company's period end stock price and stock volatility, can have a significant impact on the estimated fair value. The fair value recorded for the Holder Redemption Option may vary significantly from period to period. This variability may result in the actual liability for a period either above or below the estimates recorded in the Company's consolidated financial statements, resulting in significant fluctuations in other income (expense) as a result of the corresponding non-cash gain or loss recorded. The model requires the following inputs: (i) price of the Company's common stock; (ii) the expected life of the instrument or derivative; (iii) risk-free interest rate; (iv) estimated dividend yield, and (v) estimated stock volatility. Assumptions used in the calculation require significant management judgment.

The following table sets forth the Level 3 inputs to the binomial lattice model that were used to determine the fair value of the Elutions Note and the Holder Redemption Option:

	<b>December 31, 2016</b>	<b>January 2, 2016</b>
Common stock price	\$ 0.91	\$ 2.22
Dividend yield	0.0%	0.0%
Credit spread	16.0%	11.4%
Risk-free interest rate	1.3%	1.3%
Estimated stock volatility	77.3%	45.0%

In addition, the Company determined that the provision of the Elutions Note that permits Cartesian Limited to prepay the Elutions Note after 18 months if the trading price of the Company's common stock exceeds \$5.50 per share for a specified period of time is an embedded derivative asset that requires bifurcation (the "Issuer Call Option"). As of December 31, 2016 and January 2, 2016, the fair value of the Issuer Call Option was determined to be immaterial.

Because the Company measures the Holder Redemption Option at fair value on a recurring basis, transfers, if any, between the levels of the fair value hierarchy are recognized at the end of the fiscal quarter in which the change in circumstances that caused the transfer occurred. There were no transfers between Level 1, 2 or 3 liabilities during fiscal years 2016 or 2015.

In connection with the acquisition of the Farncombe Entities, the Company recorded a liability related to the Earn-Out portion of the purchase consideration. See Note 2, Acquisition, for further discussion of the Earn-Out liability. The Company has classified the Earn-Out liability as a Level 3 liability and the fair value of the Earn-Out liability will be evaluated each reporting period and changes in its fair value will be included in the Company's results of operations. The fair value of the Earn-Out liability was calculated using a Monte Carlo simulation using a risk-adjusted discount rate applied to management's estimate of forecasted revenues that are eligible under the Earn-Out as described in the Purchase Agreement. To determine the fair value of the Earn-Out liability, management evaluates assumptions that require significant judgment. Changes in certain inputs to the valuation model, including the Company's estimate of future revenues, can have a significant impact on the estimated fair value. The fair value recorded for the Earn-Out liability may vary significantly from period to period. This variability may result in the actual liability for a period either above or below the estimates recorded in the Company's Consolidated Financial Statements, resulting in significant fluctuations in results of operations as a result of the corresponding non-cash gain or loss recorded.

Because the Company measures the Earn-Out liability at fair value on a recurring basis transfers, if any, between the levels of the fair value hierarchy are recognized at the end of the fiscal quarter in which the change in circumstances that caused the transfer occurred. There were no transfers between Level 1, 2 or 3 liabilities during the fiscal years ended December 31, 2016 or January 2, 2016.

As of December 31, 2016 and January 2, 2016, liabilities recorded at fair value on a recurring basis consist of the following (in thousands):

	Total	Quoted prices in active markets Level 1	Significant other observable inputs Level 2	Significant other unobservable inputs Level 3
<b>December 31, 2016:</b>				
Holder Redemption Option	\$ 970	\$ —	\$ —	\$ 970
Earn-Out Liability	\$ 1,903	\$ —	\$ —	\$ 1,903
<b>January 2, 2016:</b>				
Holder Redemption Option	\$ 952	\$ —	\$ —	\$ 952
Earn-Out Liability	\$ 2,176	\$ —	\$ —	\$ 2,176

The following table summarizes the year-to-date changes to the fair value of the Holder Redemption Option and Earn-Out liability, which are Level 3 liabilities (in thousands):

	Holder Redemption Option	Earn-Out Liability
Fair value at January 2, 2016	\$ 952	\$ 2,176
Increase (decrease) in fair value	18	(273)
Fair value at December 31, 2016	\$ 970	\$ 1,903

#### *Other Fair Value Disclosures*

The carrying amounts of cash and cash equivalents, accounts receivable, accounts payable and accrued expenses approximate their fair values because of the relatively short-term maturities of these financial instruments.

#### **11. LEASE COMMITMENTS**

The Company leases office facilities, computer equipment and office furniture under various operating leases expiring at various dates through May 2022.

Following is a summary of future minimum payments under operating leases that have initial or remaining non-cancellable lease terms at December 31, 2016 (amounts in thousands):

Fiscal Year	Operating Leases
2017	\$ 1,509
2018	1,742
2019	1,475
2020	1,361
2021	717
Thereafter	15
Minimum lease payments	\$ 6,819

Total rental expense, net of subtenant rents received, was approximately \$1,872,000 and \$1,808,000 for fiscal years 2016 and 2015, respectively. For fiscal years 2016 and 2015, \$61,000 and \$13,000 was recorded in cost of services, respectively, and \$1,811,000 and \$1,795,000 was recorded in selling, general and administrative expenses, respectively. The Company recorded \$171,000 in rental income from subtenants during fiscal year 2015. There was no rental income from subtenants recognized in fiscal 2016. Rents received from subtenants were recorded as an offset to rental expense.

In 2015, the Company took steps to discontinue use of its leased facilities in McLean, Virginia. The space is leased under an operating lease with a term expiring in July 2019 and is comprised of 4,823 square feet. Although the Company has clients in this geographic market, projects are performed from either client sites or other Company locations, and thus the space is not required or used by Company employees, and specifically not used for revenue-generating activities. The property is vacant and currently being marketed as a sublease. We accounted for the discontinuation of use of this property in accordance with FASB ASC 420, "*Exit or Disposal Cost Obligations*" and as such recorded a liability of approximately \$256,000 during the second fiscal quarter of fiscal 2015. Based on updated probability-weighted cash flow analyses performed as of December 31, 2016 and January 2, 2016, a \$39,000 reduction of the accrual was recorded for fiscal 2016 and an additional accrual of \$72,000 was recorded for fiscal 2015. As of December 31, 2016, a liability of \$185,000 is recorded of which \$103,000 is recorded in Other accrued liabilities and \$82,000 is recorded in Other noncurrent liabilities in the Consolidated Balance Sheets. The expense related to this liability is recorded in Selling, general and administrative expense on the Consolidated Statements of Operations and Comprehensive Loss. The amounts recorded were calculated using probability-weighted cash flow analysis and represent the present value, calculated using a credit-adjusted risk free rate, of our remaining costs under the remaining term of the lease, net of estimated subleases we are likely to obtain.

## 12. LETTERS OF CREDIT

In connection with the leasing of office space, the Company provides security deposits in the form of two irrevocable letters of credit with financial institutions for the benefit of the respective landlords. As of December 31, 2016 and January 2, 2016, the required, total collateral amount was \$103,000 and \$102,000, respectively. The collateral deposited for these letters of credit is included in "Other Noncurrent Assets" on the Company's Consolidated Balance Sheets as of December 31, 2016 and January 2, 2016. No obligation has been recorded in connection with the letters of credit on the Company's Consolidated Balance Sheets as of December 31, 2016 and January 2, 2016.

## 13. COMMITMENTS AND CONTINGENCIES

The Company is not subject to any material litigation, individually and in the aggregate, as of December 31, 2016. However, the Company may become involved in various legal and administrative actions arising in the normal course of business. These could include actions brought by taxing authorities challenging the employment status of consultants utilized by the Company. In addition, future customer bankruptcies could result in additional claims on collected balances for professional services near the bankruptcy filing date. When management has determined that it is probable that an asset has been impaired or a liability had been incurred related to an action, claim or assessment and the amount of loss can be reasonably estimated, the Company will record a liability for such estimated loss in the appropriate accounting period. The resolution of any of such actions, claims, or the matters described above may have an impact on the financial results for the period in which they occur.

During fiscal years 2013 and 2014, the Company recorded liabilities relating to a series of awards made by the arbitrator in a claim by a former executive officer of the Company for severance, attorneys' fees and costs and pre-judgment interest. The final award amount was \$1.7 million which was paid in the first quarter of fiscal 2015. All amounts awarded under the action have been paid by the Company and the matter is fully resolved.

During the first quarter of fiscal 2015, the Company renewed an agreement under which it had a commitment to purchase a minimum of \$412,000 in computer software over a three-year period. During the first quarter of fiscal 2016, the Company amended the agreement to include an additional commitment of \$95,000 over a two-year period. As of December 31, 2016, the Company had an obligation of \$181,000 remaining under this commitment.

In conjunction with the acquisition of the Famcombe Entities on July 22, 2015, the Company has recognized a liability of \$1.9 million related to potential earn-out consideration payable to the former shareholders of the Famcombe Entities. See Note 2, Acquisition for a discussion of the earn-out consideration.

#### **14. COMMON STOCK REPURCHASE PROGRAM**

On June 7, 2016, the Company's Board of Directors authorized an amendment to the Company's previously announced stock repurchase program to extend the program through June 30, 2017. The program was initially authorized in February 2014 and was previously extended in June 2015. The program authorizes the Company to repurchase up to \$2 million of Company common stock. Under the program, repurchases may be made by the Company from time to time in the open market or through privately negotiated transactions depending on market conditions, share price and other factors. The stock repurchase program may be modified or discontinued at any time by the Board of Directors. The Company expects to fund repurchases, if any, through cash on hand, future cash flow from operations and future borrowings. In order to facilitate repurchases, the Company entered into a Rule 10b5-1 plan, which permits stock repurchases when the Company might otherwise be precluded from doing so under insider trading laws or because of self-imposed trading blackout periods. There were no share repurchases under the share repurchase program during fiscal year 2016. During the fiscal year ended January 2, 2016, the Company purchased 64,923 shares under the stock repurchase program at an average cost of \$2.44 per share. Through December 31, 2016, approximately \$1,838,000 remained outstanding under the share repurchase program for future repurchases of Company common stock.

#### **15. EMPLOYEE BENEFIT PLANS**

The Company offers defined contribution plans to eligible employees. Such employees may contribute a percentage of their annual compensation in accordance with the plans' guidelines. The plans provide for Company contributions that are subject to maximum limitations as defined by the plans. Company contributions to its defined contribution plans totaled \$1.4 million and \$1.5 million in the fiscal years ended December 31, 2016 and January 2, 2016, respectively.

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

None.

**ITEM 9A. CONTROLS AND PROCEDURES**

***Evaluation of Disclosure Controls and Procedure***

The Company maintains disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act")) that are designed to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in SEC rules and forms; and (ii) accumulated and communicated to the Company's management, including its principal executive officer and principal financial officer to allow timely decisions regarding required disclosure. We have established a Disclosure Committee, consisting of certain members of management, to assist in this evaluation. The Disclosure Committee meets regularly on a quarterly basis, and as needed.

A review and evaluation was performed by our management, including our Chief Executive Officer (the "CEO") and our Chief Financial Officer (the "CFO"), of the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. Based upon this evaluation, the Company's CEO and CFO have concluded that the Company's disclosure controls and procedures were effective as of December 31, 2016.

***Management's Report on Internal Control over Financial Reporting***

The management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. With the participation of our CEO and CFO, our management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework and criteria established in *Internal Control - Integrated Framework* issued in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, our management has concluded that our internal control over financial reporting was effective as of December 31, 2016.

This annual report does not include an attestation report of the Company's independent registered public accounting firm regarding internal control over financial reporting. Our internal control over financial reporting was not subject to attestation by the Company's independent registered public accounting firm pursuant to applicable statutes and SEC rules that require the Company to provide only management's report in this annual report.

***Changes in Internal Control over Financial Reporting***

There were no changes in our internal control over financial reporting during the fourth fiscal quarter ended December 31, 2016 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

**ITEM 9B. OTHER INFORMATION**

None.

**PART III**

**ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE**

The Company's definitive Proxy Statement for its 2017 Annual Meeting of Stockholders (the "Proxy Statement") contains, under the captions "Election of Directors," "Corporate Governance," "Executive Officers," "Submission of Stockholder Proposals and Nominations" and "Section 16(a) Beneficial Ownership Reporting Compliance" the information required by Item 10 of this Form 10-K, which information is incorporated herein by this reference.

The Company has adopted a Code of Conduct, which applies to all employees, consultants, directors and officers of the Company and its subsidiaries, including the Chief Executive Officer and the Chief Financial Officer. The Code of Conduct is available on the "Investor Relations - Corporate Governance" page of our website at [www.cartesian.com](http://www.cartesian.com). The Company intends to disclose any changes in or waivers from its Code of Conduct by posting such information on its website at [www.cartesian.com](http://www.cartesian.com) or by filing a Form 8-K with the SEC, as required.

**ITEM 11. EXECUTIVE COMPENSATION**

The Proxy Statement contains under the captions "Corporate Governance - Non-Employee Director Compensation" and "Executive Compensation," the information required by Item 11 of this Form 10-K, which information is incorporated herein by this reference.

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

The Proxy Statement contains under the captions "Security Ownership of Management and Certain Beneficial Owners" certain of the information required by Item 12 of this Form 10-K, which information is incorporated herein by this reference.

The following table provides information as of December 31, 2016 with respect to shares of the Company's common stock that may be issued under the Company's equity compensation plans:

**EQUITY COMPENSATION PLAN INFORMATION**

	(a) Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	(b) Weighted Average Exercise Price of Outstanding Options, Warrants and Rights	(c) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a))
<b>PLANS APPROVED BY SECURITY HOLDERS</b>			
- Equity Plan	537,762	\$ 4.27	961,680 <sup>(1)</sup>
- Employee Stock Purchase Plan			270,890 <sup>(2)</sup>
<b>PLANS NOT APPROVED BY SECURITY HOLDERS</b>			
- 2000 Supplemental Stock Plan	30,100	\$ 11.06	

(1)The number of shares available for future issuance excludes outstanding stock options and unvested restricted stock awards.

(2)Shares that may be purchased under the 1999 Employee Stock Purchase Plan, including shares subject to purchase during the current purchase period.

For an additional discussion of our equity compensation plans, see Item 8, "Consolidated Financial Statements," Note 5, "Share-Based Compensation."

**ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE**

The Proxy Statement contains under the captions "Certain Relationships and Related Transactions" and "Election of Directors" the information required by Item 13 of this Form 10-K, which information is incorporated herein by this reference.

**ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES**

The Proxy Statement contains under the caption "Ratification of Appointment of Independent Registered Public Accounting Firm" the information required by Item 14 of this Form 10-K, which information is incorporated herein by this reference.

## PART IV

### ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

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

(1) The response to this portion of Item 15 is set forth in Item 8 of Part II hereof.

(2) Schedules for which provision is made in the applicable accounting regulations of the Securities and Exchange Commission are not required under the related instructions or are inapplicable and therefore have been omitted.

(3) Exhibits. See accompanying Index to Exhibits. Pursuant to the rules and regulations of the Securities and Exchange Commission, the Company has filed, furnished or incorporated by reference the documents referenced in the accompanying Index to Exhibits as exhibits to this Annual Report on Form 10-K. The documents include agreements to which the Company is a party or has a beneficial interest. The agreements have been filed to provide investors with information regarding their respective terms. The agreements are not intended to provide any other factual information about the Company or its business or operations. In particular, the assertions embodied in any representations, warranties and covenants contained in the agreements may be subject to qualifications with respect to knowledge and materiality different from those applicable to investors and may be qualified by information in confidential disclosure schedules not included with the exhibits. These disclosure schedules may contain information that modifies, qualifies and creates exceptions to the representations, warranties and covenants set forth in the agreements. Moreover, certain representations, warranties and covenants in the agreements may have been used for the purpose of allocating risk between the parties, rather than establishing matters as facts. In addition, information concerning the subject matter of the representations, warranties and covenants may have changed after the date of the respective agreement, which subsequent information may or may not be fully reflected in the Company's public disclosures. Accordingly, investors should not rely on the representations, warranties and covenants in the agreements as characterizations of the actual state of facts about the Company or its business or operations on the date hereof. The Company will furnish to any stockholder, upon written request, any exhibit listed in the accompanying Index to Exhibits upon payment by such stockholder of the Company's reasonable expenses in furnishing any such exhibit.

### ITEM 16. FORM 10-K SUMMARY

None.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

### CARTESIAN, INC.

By: /s/ PETER H. WOODWARD  
PETER H. WOODWARD  
CHIEF EXECUTIVE OFFICER

/s/ JOHN C. FERRARA  
JOHN C. FERRARA  
CHIEF FINANCIAL OFFICER

Date: March 31, 2017

## POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Peter H. Woodward as his attorney-in-fact, with full power of substitution, for him or her in any and all capacities, to sign any and all amendments to this Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorney to any and all amendments to said Report.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report on Form 10-K has been signed by the following persons on behalf of the Registrant in the capacities and on the dates indicated:

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ PETER H. WOODWARD</u> Peter H. Woodward	Chief Executive Officer (Principal executive officer and Director),	March 31, 2017
<u>/s/ JOHN C. FERRARA</u> John C. Ferrara	Chief Financial Officer (Principal financial officer and principal accounting officer)	March 31, 2017
<u>/s/ ROBERT J. CURREY</u> Robert J. Currey	Chairman of the Board	March 31, 2017
<u>/s/ DONALD J. TRINGALI</u> Donald J. Tringali	Director	March 31, 2017
<u>/s/ THOMAS A. WILLIAMS</u> Thomas A. Williams	Director	March 31, 2017
<u>/s/ MICKY K. WOO</u> Micky K. Woo	Director	March 31, 2017

## INDEX TO EXHIBITS

The following is a list of exhibits filed or furnished as part of this report.

<b>Exhibit Number</b>	<b>Description of Document</b>
2.1	Share Purchase Agreement, dated July 22, 2015, among Cartesian, Inc. and the Sellers referenced therein, for the acquisition of the Famcombe Entities, filed as exhibit 2.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 23, 2015 is incorporated herein by reference as Exhibit 2.1.*
3.1	Amended and Restated Certificate of Incorporation, as amended, filed as Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on June 18, 2014 (File No. 001-34006), is incorporated herein by reference as Exhibit 3.1.
3.2	Amended and Restated Bylaws, filed as Exhibit 3.2 to the Company's Form 8-K filed with the Securities and Exchange Commission on June 18, 2014 (File No. 001-34006), are incorporated herein by reference as Exhibit 3.2.
4.1	Specimen Common Stock Certificate, filed as Exhibit 4.1 to the Company's Form 10-Q for the quarter ended June 28, 2014 (File No. 001-34006) filed with the Securities and Exchange Commission, is incorporated herein by reference as Exhibit 4.1.
4.2	Registration Rights Agreement, dated February 12, 1998, among the Company and certain holders of the Company's common stock (the "Registration Rights Agreement"), filed as Exhibit 10.1 to the Registration Statement on Form S-1 originally filed September 20, 1999 (Registration No. 333-87383), as amended (the "1999 S-1 Registration Statement"), is incorporated herein by reference as Exhibit 4.2.
4.3	Amended and Restated Rights Agreement, dated as of July 19, 2010, by and between the Company and Computershare Trust Company N.A., filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 19, 2010 (File No. 001-34006), is incorporated herein by reference as Exhibit 4.3.
4.4	Form of Rights Certificate, filed as Exhibit B to the Amended and Restated Rights Agreement filed as Exhibit 4.1 to the Company's Current Report on Form 8-K with the Securities and Exchange Commission on July 19, 2010 (File No. 001-34006), is incorporated herein by reference as Exhibit 4.4.
4.5	Amendment No. 1, dated February 25, 2014, to the Amended and Restated Rights Agreement, dated as of July 19, 2010, by and between the Company and Computershare Trust Company, N.A., filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on February 26, 2014 (File No. 001-34006), is incorporated herein by reference as Exhibit 4.5.
4.6	Secured Loan Note Deed dated March 18, 2014, issued by Cartesian Limited to Elutions Capital Ventures S.à r.l in the principal amount of US\$3,268,664, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 19, 2014 (File No. 001-34006), is incorporated herein by reference as Exhibit 4.6.
4.7	Amended and Restated Common Stock Purchase Warrant (Commercial Incentive) dated May 8, 2014, between the Company and Elutions, Inc., filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 9 2014 (File No. 001-34006), is incorporated herein by reference as Exhibit 4.7.
4.8	Amended and Restated Common Stock Purchase Warrant (Tracking) dated May 8, 2014, between the Company and Elutions, Inc., filed as Exhibit 4.2 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 9, 2014 (File No. 001-34006), is incorporated herein by reference as Exhibit 4.8.

- 4.9 Registration Rights Agreement dated March 18, 2014 between the Company and Elutions, Inc., filed as Exhibit 4.4 to the Company's Current Report on Form 8-K, filed with the Securities and Exchange Commission on March 19, 2014 (File No. 001-34006), is incorporated herein by reference as Exhibit 4.9.
- 10.1 Registration Rights Agreement, dated February 12, 1998. (See Exhibit 4.2).
- 10.2 Form of Indemnification Agreement between the Company and each of its Directors and Officers, filed as Exhibit 10.2 to the 1999 S-1 Registration Statement, is incorporated herein by reference as Exhibit 10.2. (1)
- 10.3 1998 Equity Incentive Plan (amended and restated June 18, 2014), filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on June 18, 2014 (File No. 001-34006), and the Form of Agreements thereunder, filed in Exhibit 10.3 to the 1999 S-1 Registration Statement, are incorporated herein by reference as Exhibit 10.3. (1)
- 10.4 Employee Stock Purchase Plan, as amended and restated effective June 14, 2013, filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on June 19, 2013 (File No. 001-34006), and the Form of Agreements thereunder, filed in Exhibit 10.4 to the 1999 S-1 Registration Statement, are incorporated herein by reference as Exhibit 10.4. (1)
- 10.5 2000 Supplemental Stock Plan and Form of Agreements thereunder, filed as Exhibit 10.16 to the Company's Form 10-K for the fiscal year ended December 30, 2000 (File No. 000-27617), is incorporated herein by reference as Exhibit 10.5. (1)
- 10.6 Employment Agreement between the Company and James R. Baker dated January 1, 2010, filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 30, 2013 (File No. 001-34006), is incorporated herein by reference as Exhibit 10.6. (1)
- 10.7 Third Amended Lease Agreement between NewTower Trust Company Multi-Employer Property Trust and the Company, dated August 30, 2005, filed as Exhibit 10.10 to the Company's Form 10-K for the fiscal year ended December 30, 2006 (File No. 000-27617), is incorporated herein by reference as Exhibit 10.7.
- 10.8 Third Additional Space Commencement Date Agreement between NewTower Trust Company Multi-Employer Property Trust and the Company, dated February 28, 2006, filed as Exhibit 10.9 to the Company's Form 10-K for the fiscal year ended December 30, 2006 (File No. 000-27617), is incorporated herein by reference as Exhibit 10.8.
- 10.9 Lease Agreement between Cartesian Limited and Sun Life Assurance Company of Canada (U.K.) Limited, dated November 23, 2000, filed as Exhibit 10.1 to the Company's Form 10-Q for the quarter ended March 31, 2007 (File No. 000-27617), is incorporated herein by reference as Exhibit 10.9.
- 10.10 Fourth Amendment to Lease between NewTower Trust Company Multi-Employer Property Trust and the Company, dated July 10, 2007, filed as Exhibit 10.16 to the Company's Form 10-K for the fiscal year ended December 27, 2007 (File No. 000-27617), is incorporated herein by reference as Exhibit 10.10.
- 10.11 Fifth Amendment to Lease between NewTower Trust Company Multi-Employer Property Trust and the Company, dated May 19, 2008, filed as Exhibit 10.1 to the Company's Form 10-Q for the quarter ended June 28, 2008 (File No. 000-27617), is incorporated herein by reference as Exhibit 10.11.
- 10.12 Registration Rights Agreement, dated March 18, 2014. (See Exhibit 4.9).
- 10.13 Lease between Two Financial Center, LLC and the Company, dated August 16, 2010, filed as Exhibit 10.1 to the Company's Form 10-Q for the quarter ended October 2, 2010 (File No. 001-34006), is incorporated herein by reference as Exhibit 10.13.
- 10.14 Deed of Variation of the lease between EPO (Norman) Limited, EPO (Norman 2) Limited and the Company, dated September 30, 2010, filed as Exhibit 10.2 to the Company's Form 10-Q for the quarter ended October 2, 2010 (File No. 001-34006), is incorporated herein by reference as Exhibit 10.14.

- 10.15 Form of Restricted Stock Award Agreement, filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on April 10, 2013 (File No. 001-34006), is incorporated herein by reference as Exhibit 10.15. (1)
- 10.16 Sixth Amendment to Lease between MEPT Lighton Plaza LLC and the Company, dated February 15, 2013, filed as Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 29, 2013 (File No. 001-34006), is incorporated herein by reference as Exhibit 10.16.
- 10.17 First Amendment to Lease between SG 2007-FL14 NJOP Holdings LLC and the Company, dated June 19, 2013, filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 28, 2013 (File No. 001-34006), is incorporated herein by reference as Exhibit 10.17.
- 10.18 Investment Agreement, dated February 25, 2014, by and between the Company and Elutions, Inc., filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on February 26, 2014 (File No. 001-34006), is incorporated herein by reference as Exhibit 10.18.
- 10.19 Amendment No. 1 to Investment Agreement, dated May 8, 2014, by and between the Company and Elutions, Inc., filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 9, 2014 (File No. 001-34006), is incorporated herein by reference as Exhibit 10.19.
- 10.20 Guaranty dated March 18, 2014 issued by the Company in favor of Elutions Capital Ventures S.à r.l., filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 19, 2014 (File No. 001-34006), is incorporated herein by reference as Exhibit 10.20.
- 10.21 Security Agreement dated March 18, 2014 between the Company and Elutions Capital Ventures S.à r.l., filed as Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 19, 2014 (File No. 001-34006), is incorporated herein by reference as Exhibit 10.21.
- 10.22 Form of Restricted Stock Award, filed as Exhibit 10.29 to the Company's Form 10-K for the fiscal year ended December 28, 2013 (File No. 001-34006), is incorporated herein by reference as Exhibit 10.22. (1)
- 10.23 Factoring Agreement dated April 22, 2016 between Cartesian, Inc. and RTS Financial Service, Inc., filed as Exhibit 10.1 to the Company's Form 8-K filed with the Securities and Exchange Commission on April 26, 2016 (File No. 001-34006), is incorporated herein by reference as Exhibit 10.23.
- 10.24 Invoice Discounting Agreement dated July 29, 2016 between Cartesian Limited and RBS Invoice Finance Limited, filed as Exhibit 10.1 to the Company's Form 8-K filed with the Securities and Exchange Commission on August 2, 2016 (File No. 001-34006), is incorporated herein by reference as Exhibit 10.24.
- 10.25 Debenture (security agreement) dated July 29, 2016 between Cartesian Limited and RBS Invoice Finance Limited, filed as Exhibit 10.2 to the Company's Form 8-K filed with the Securities and Exchange Commission on August 2, 2016 (File No. 001-34006), is incorporated herein by reference as Exhibit 10.25.
- 10.26 Cartesian, Inc. Equity Incentive Plan, filed as exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on June 18, 2015 (File No. 001-34006) is incorporated herein by reference as Exhibit 10.26. (1)
- 10.27 Employment Agreement, dated as of June 3, 2015, by and between Cartesian, Inc. and Peter Woodward, filed as exhibit 10.3 to Amendment No. 1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on June 18, 2015 (File No. 001-34006) is incorporated herein by reference as Exhibit 10.27. (1)

- 10.28 Form of Stock Option Agreement, filed as exhibit 10.4 to Amendment No. 1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on June 18, 2015 (File No. 001-34006) is incorporated herein by reference as Exhibit 10.28. (1)
- 10.29 Office Lease Agreement between Nine Penn Center Associates, L.P. and the Company, dated April 29, 2015, filed as exhibit 10.6 to the Company's Quarterly Report on Form 10-Q for the quarter ended July 4, 2015 (File No. 001-34006) filed with the Securities and Exchange Commission on August 18, 2015, is incorporated herein by reference as Exhibit 10.29.
- 10.30 First Amendment to Lease between Two Financial Center, LLC and the Company, dated May 24, 2015, filed as exhibit 10.7 to the Company's Quarterly Report on Form 10-Q for the quarter ended July 4, 2015 (File No. 001-34006) filed with the Securities and Exchange Commission on August 18, 2015, is incorporated herein by reference as Exhibit 10.30.
- 10.31 Employment Agreement, dated as of September 29, 2015, by and between Cartesian, Inc. and John C. Ferrara, filed as exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 1, 2015 (File No. 001-34006) is incorporated herein by reference as Exhibit 10.31. (1)
- 10.32 Employment Agreement - Amendment #1, dated as of September 28, 2016, by and between Cartesian, Inc. and John C. Ferrara, filed as exhibit 10.3 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 30, 2016 (File No. 001-34006) is incorporated herein by reference as Exhibit 10.32. (1)
- 10.33 Employment Agreement, dated as of September 26, 2016, by and between Cartesian, Inc. and William Hill, filed as exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 30, 2016 (File No. 001-34006) is incorporated herein by reference as Exhibit 10.33. (1)
- 21.1 List of subsidiaries of the Company, prepared pursuant to Item 601(b)(21) of Regulation S-K, is attached to this Form 10-K as Exhibit 21.1.
- 23.1 Consent of Grant Thomton, LLP, independent registered public accounting firm is attached to this Form 10-K as Exhibit 23.1.
- 23.2 Consent of Deloitte & Touche LLP, independent registered public accounting firm is attached to this Form 10-K as Exhibit 23.2.
- 24.1 Power of attorney (see signature page).
- 31.1 Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 is attached to this Form 10-K as Exhibit 31.1.
- 31.2 Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 is attached to this Form 10-K as Exhibit 31.2.
- 32.1 Certification furnished pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 is attached to this Form 10-K as Exhibit 32.1.
- 101 101.INS XBRL Instance Document

101.SCH XBRL Taxonomy Extension Schema Document

101.CAL XBRL Taxonomy Extension Calculation Linkbase Document

101.DEF XBRL Taxonomy Extension Definition Linkbase Document

101.LAB XBRL Taxonomy Extension Label Linkbase Document

101.PRE XBRL Taxonomy Extension Presentation Linkbase Document

(1) Management contracts and compensatory plans and arrangements required to be filed as Exhibits pursuant to Item 15 of this report.

\* Portions of this document were redacted and are subject to an order granting confidential treatment under the Securities Exchange Act of 1934, as amended (File No. 1-34006-CF#32732). Redacted portions are indicated with the notation [\*\*\*].

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**EXHIBIT 21.1**

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**SUBSIDIARIES OF THE COMPANY**

<b>Name of Subsidiary</b>	<b>Jurisdiction of Incorporation</b>
TMNG.COM, Inc.	Delaware
TMNG Europe Ltd.	England and Wales
TMNG Canada Ltd.	Canada
TMNG Marketing, LLC	Kansas
TMNG Technologies, Inc.	Delaware
Cambridge Strategic Management Group, Inc. (formerly TMNG Strategy, Inc.)	Delaware
Cambridge Adventis Ltd.	England and Wales
RVA Consulting, LLC	New Jersey
TWG Consulting, Inc.	Kansas
Cartesian Ltd.	England and Wales
Famcombe Technology Limited	England and Wales
Famcombe Engineering Services Limited	England and Wales
Famcombe France SARL	France

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**EXHIBIT 23.1**

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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We have issued our report dated March 31, 2017, with respect to the consolidated financial statements included in the Annual Report of Cartesian, Inc. on Form 10-K for the year ended December 31, 2016. We consent to the incorporation by reference of said report in Registration Statements of Cartesian, Inc. on Forms S-8 (File No. 333-37304, File No. 333-74940, File No. 333-114979, File No. 333-123948, File No. 333-137869, File No. 333-158500, File No. 333-187619, File No. 333-195046, File No. 333-207136 and File No. 333-203407) and on Form S-3 (File No. 333-198093).

/s/ GRANT THORNTON LLP

KANSAS CITY, MISSOURI

March 31, 2017

**EXHIBIT 23.2**

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in Registration Statement No. 333-37304, 333-74940, 333-114979, 333-123948, 333-137869, 333-158500, 333-187619, 333-195046, 333-207136, and 333-203407 on Form S-8 and 333-198093 on Form S-3 of our report dated April 1, 2016 (March 31, 2017 as to Note 1), relating to the consolidated financial statements of Cartesian, Inc. (which report expresses an unqualified opinion and includes an explanatory paragraph relating to the Company's ability to continue as a going concern) appearing in this Annual Report on Form 10-K of Cartesian, Inc. for the fiscal year ended December 31, 2016.

/s/ DELOITTE & TOUCHE LLP

KANSAS CITY, MISSOURI

March 31, 2017

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**EXHIBIT 31.1**

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**Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, Peter H. Woodward, certify that:

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

BY: /s/ PETER H. WOODWARD  
CHIEF EXECUTIVE OFFICER

Date: March 31, 2017

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**EXHIBIT 31.2**

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**Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, John C. Ferrara, certify that:

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

BY: /s/ JOHN C. FERRARA  
CHIEF FINANCIAL OFFICER

Date: March 31, 2017

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**EXHIBIT 32.1**

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**Certifications Furnished Pursuant to Section 906 of the Sarbanes - Oxley Act of 2002**

I, Peter H. Woodward, Chief Executive Officer of Cartesian, Inc. (the "Company"), certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, that:

1. The Annual Report on Form 10-K of the Company for the annual period ended December 31, 2016 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

BY: /s/ PETER H. WOODWARD  
CHIEF EXECUTIVE OFFICER

Date: March 31, 2017

I, John C. Ferrara, Chief Financial Officer of Cartesian, Inc. (the "Company"), certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, that:

1. The Annual Report on Form 10-K of the Company for the annual period ended December 31, 2016 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

BY: /s/ JOHN C. FERRARA  
CHIEF FINANCIAL OFFICER

Date: March 31, 2017

