UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

Form 10-K

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

For the fiscal year ended March 31, 2020

☐ **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 001-33625

VIRTUSA CORPORATION

(Exact Name of Registrant as Specified in Its Charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization)	**04-3512883** (I.R.S. Employer Identification No.)

132 Turnpike Rd
Southborough, Massachusetts 01772
(Address of principal executive office)

(508) 389-7300
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.01 par value per share	**VRTU**	**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 every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).☒ Yes ☐ No

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

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

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

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 registrant's voting and non-voting shares of common stock held by non-affiliates of the registrant on September 30, 2019, based on $36.02 per share, the last reported sale price on the Nasdaq Global Select Market on that date, was $914,194,732.

The number of shares outstanding of each of the issuer's classes of common stock as of May 22, 2020:

Class	Number of Shares
Common Stock, par value $0.01 per share	30,132,817

DOCUMENTS INCORPORATED BY REFERENCE

The registrant intends to file a definitive Proxy Statement for its 2020 annual meeting of stockholders pursuant to Regulation 14A within 120 days of the end of the fiscal year ended March 31, 2020. Portions of the registrant's Proxy Statement are incorporated by reference into Part III of this Form 10-K. With the exception of the portions of the Proxy Statement expressly incorporated by reference, such document shall not be deemed filed with this Form 10-K.

VIRTUSA CORPORATION
ANNUAL REPORT ON FORM 10-K
Fiscal Year Ended March 31, 2020
TABLE OF CONTENTS

Part I

This Annual Report on Form 10-K (the "Annual Report") contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and are subject to the "safe harbor" created by those sections. These statements relate to, among other things: our, expectations regarding the potential impact of the COVID-19 pandemic on our business, operations and the markets in which we and our clients operate; our expectations concerning the growth of our business, the ability of our clients to realize benefits from the use of our IT services; projections of financial results, the results of our operations and our financial condition; our competitive landscape; the impact of new accounting pronouncements; future capital requirements and capital expenditures; market risk exposures; customer contracts; our service delivery mix and our plans, strategies and objectives for our company and our future operations. Any statements about our expectations, beliefs, plans, objectives, assumptions, future events or performance or similar subjects are not historical facts and may be forward-looking. Some of the forward-looking statements can be identified by the use of forward-looking terms such as "believes," "expects," "may," "will," "should," "seek," "intends," "plans," "estimates," "projects," "anticipates," or other comparable terms. These forward-looking statements involve risk and uncertainties. We cannot guarantee future results, levels of activity, performance or achievements, and you should not place undue reliance on our forward-looking statements. Our actual results may differ significantly from the results discussed in the forward-looking statements. Factors that might cause such a difference include, but are not limited to, those set forth in "Item 1A. Risk Factors" and elsewhere in this Annual Report. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or strategic investments. Except as may be required by law, we have no plans to update these forward- looking statements to reflect events or circumstances after the date of this Annual Report. We caution readers not to place undue reliance upon any such forward- looking statements, which speak only as of the date made. You are advised, however, to consult any further disclosures we make on related subjects in our Form 10-Q and Form 8-K reports to the Securities and Exchange Commission (the "SEC").

Item 1. *Business.*

Overview

Virtusa Corporation (the "Company", "Virtusa", "we", "us" or "our") is a global provider of digital engineering and information technology ("IT") outsourcing services that accelerate business outcomes for its clients. We support Forbes Global 2000 clients across large, consumer-facing industries like banking, financial services, insurance, healthcare, communications, technology, and media and entertainment, as these clients seek to improve their business performance through accelerating revenue growth, delivering compelling consumer experiences, improving operational efficiencies, and lowering overall IT costs. We provide services across the entire spectrum of the IT services lifecycle, from consulting, to technology and user experience ("UX") design, development of IT applications, systems integration, digital engineering, testing and business assurance, and maintenance and support services, including cloud, infrastructure and managed services. We help our clients solve critical business problems by leveraging a combination of our distinctive consulting approach, unique platforming methodology, and deep domain and technology expertise.

Our services enable our clients to accelerate business outcomes by consolidating, rationalizing and modernizing their core customer facing processes into one or more core systems. We help organizations realize the benefits of digital transformation ("DT") and cloud transformation ("CT") by bringing together digital infrastructure, analytics and intelligence and customer experience by engineering the digital enterprise of tomorrow on the cloud. We deliver cost effective solutions through a global delivery model, applying advanced methods such as Agile, an industry standard technique designed to accelerate application development. We use our Digital Transformation Studio (DTS), which is built by Virtusa's engineering teams that have decades of industry knowledge and experience. These teams are certified and leverage Virtusa's industry leading tools and assets, providing speed and transparency. DTS engineering tools drive software development lifecycle (SDLC) automation to improve quality, enabling speed and increasing productivity.

Headquartered in Massachusetts, we have offices throughout the Americas, Europe, Middle East and Asia, with global delivery centers in the United States, India, Sri Lanka, Hungary, Singapore, Poland, Mexico and Malaysia. We also have many employees who work with our clients either onsite or virtually, which offers flexibility for both clients and employees.

We support the chief executive officers ("CXOs") at our client organizations, including the chief information officers ("CIOs"), chief technology officers ("CTOs"), chief operating officers ("COOs"), and chief digital/ marketing officers ("CDOs/ CMOs") in solving their most critical issues, including reducing total cost of ownership, accelerating time-to-market, increasing productivity, improving innovation velocity, expanding into adjacent markets and/or new revenue segments, and enhancing the customer experience delivered by their organizations. Our digital engineering services ("DES") support our clients' business growth imperative by delivering targeted and differentiated solutions that help our clients expand their addressable markets, as well as develop go-to-market strategies supporting new revenue streams. To improve IT efficiencies and reduce the cost of IT operations, we use our operational excellence services ("OES") to help our clients consolidate applications into platforms, rationalize IT infrastructure, and deliver transformational, industry-focused solutions, thereby enabling our clients to deliver modern, efficient and agile enterprise application platforms. Our deep expertise in core technology services allows us to help our clients to lower total cost of ownership of their overall IT investments. We also combine industry specialization with our core services to deliver high-impact solutions in critical business functions that help our clients transform their business performance and gain competitive advantage in the markets in which they operate.

The convergence of technological innovation, changing consumer expectations, supply chain expansion, and emergence of disruptive start-ups, is fundamentally changing the way businesses operate. We operate in markets and industries where rapid advances in key technologies, like mobility, big data analytics, social media and cloud computing are providing disruptive opportunities for progressive business leaders to break down barriers and expand market-share. We enable our clients to leverage technological innovations to provide the distinctive customer experiences demanded by digital consumers who are increasingly looking for services that are available 24×7 without interruption, location aware and highly customized to their social likes and dislikes. We help our clients understand business threats and opportunities in their industries and develop strategies to help mitigate these threats and capitalize on the emerging opportunities, while preparing the business to digitally transform and position itself better in the emerging digital business environment. As part of our DES solutions, we provide end-to-end consulting, user experience design, digital engineering, Devops, technology selection, cloud native development and implementation and support services, which allow our clients to understand emerging consumer demand in their markets of operation and develop, and execute to, a roadmap to transform their business and enhance their competitive differentiators. Commoditization of IT services and the emergence of software-as-a-service models are putting tremendous pressure on our clients' IT organizations to improve the way they manage IT operations and lower the overall cost of IT. Our OES solutions enable our clients to improve operational and IT efficiencies through the innovative use of cloud automation, effort compression and IT simplification.

Continued advances in areas like the internet of things ("IoT"), artificial intelligence ("AI"), machine learning ("ML"), robotics process automation ("RPA") and the cloud now pushing the boundaries of how technology can disrupt traditional business models and deliver significant value in several areas, including delivering new products and services, enhancing consumer experience, and improving operational efficiencies of the business. We have invested in developing deep capabilities in these areas, fostering a partner ecosystem and building a platform for nurturing innovation and rapidly constructing prototypes that use IoT, AI, ML and/or RPA to solve specific business problems for our clients. We have created innovation centers focused on certain technologies like IoT, AI, and ML, which offer an ecosystem for clients to participate and innovate in creating new solutions to their business challenges. Through these innovation centers, we have been able to deliver award winning solutions to some of our marquee clients in the healthcare, communications and insurance sectors.

Virtusa's xLabs is focused on tapping into the disruptive startup ecosystem and the innovative, cutting-edge technologies driving these businesses. Our xLabs, which began as a banking and financial services focused FinTech Lab, has expanded its scope to focus on delivering digital innovation for our clients across banking and financial services, insurance, healthcare, media and telecommunications industries. We have built a cloud-based, open innovation platform ("OIP") that offers our clients discrete technology solutions that enable them to accelerate time to market and provides them with an experimentation sandbox that they can use to test and evaluate new products and services. Today, our xLabs' team has built and delivered innovative solutions using open application programming interface ("API") platforms, micro services frameworks, and block-chain. We expect to continue this trend of investing in emerging technologies and solutions to accelerate digital business outcomes for our clients.

We apply our innovative platforming approach across all of our services. Through our platforming approach, we help our clients combine common business processes and rules, technology frameworks and data into reusable application platforms that can be leveraged across the enterprise to build, maintain and enhance existing and future applications. Our platforming approach enables our clients to continually improve their software platforms and applications in response to changing business needs and evolving technologies, while also allowing them to improve business agility, realize long-term and ongoing cost savings and improve their ROI. Our platforming methodology also reduces the effort and cost required to develop and maintain IT applications by streamlining and consolidating our clients' applications on an ongoing basis. We believe that our solutions provide our clients with the consultative and high-value services associated with large consulting and systems integration firms, the cost-effectiveness associated with offshore IT outsourcing firms, and the ongoing benefits of our innovative platforming approach.

We deliver our services using our enhanced global delivery model which leverages a highly efficient onsite-to-offshore service delivery mix and proprietary tools and processes to manage and accelerate delivery, foster innovation, and promote continual improvement of outcomes delivered to our clients. Our global service delivery teams work seamlessly at our client locations and at our global delivery centers to provide value-added services rapidly and cost-effectively. Our teams do this by using our enhanced global delivery model, which we manage to a targeted 30% to 70% onsite-to-offshore service delivery mix, although such delivery mix may be impacted by several factors, including our new and existing client delivery requirements and the global COVID-19 pandemic.

We leverage our DTS which combines engineering tools, industry assets and certified agile teams to deliver measurable results. Our DTS teams are enabled for success, scalability and growth through a combination of structure and resources, including training and certification, developer portals, agile squads and tribes, and solutions assembly sandbox. DTS engineering tools include Smart ALM to improve the quality and clarity of user stories, gamified dashboards to promote transparency and quality and end to end CI/CD to automate code quality review, testing and release management. DTS contains Open Innovation Assets build on cloud-native platforms, powered by AI model zoo and data lakes, cloud native middleware and an API lifecycle toolkit.

We provide our IT services primarily to enterprises engaged in the following industries: communications and technology ("C&T"); banking, financial services and insurance ("BFSI"); and media and information ("M&I"). Our current clients include leading global enterprises such as Citigroup Technology, Inc. ("Citi"), JPMorgan Chase Bank, N.A. ("JPMC") and British Telecommunications plc ("BT"), and leading enterprise software developers. We have a high level of repeat business among our clients. For instance, during the fiscal year ended March 31, 2020, 97% of our revenue came from clients to whom we had been providing services for at least one year. Our top ten clients accounted for approximately 56%, 55%, 50% of our total revenue in the fiscal years ended March 31, 2020, 2019 and 2018, respectively. Our largest client for the fiscal year ended March 31, 2020, Citi, accounted for 16% of our total revenue with no other client accounting for 10% or more of our revenues.

On October 15, 2019, we entered into Amendment No. 2 to Amended and Restated Credit Agreement with JPMorgan Chase Bank, N.A. (the "Administrative Agent") and the lenders party thereto (the "Second Credit Agreement Amendment"), which amends the Company's Amended and Restated Credit Agreement, dated as of February 6, 2018, with such parties (as amended, the "Credit Agreement") to, among other things, increase the revolving commitments available to the Company under the Credit Agreement from $200.0 million to $275.0 million, reduce the interest rate margins applicable to term loans and revolving loans outstanding under the Credit Agreement from time to time and reduce the commitment fee payable by the Company to the lenders in respect of unused revolving commitments under the Credit Agreement. We executed the Second Credit Agreement Amendment to provide additional lending capacity which we used to fund the completion of the Polaris delisting transaction, as well as to provide excess lending capacity in the event of future opportunistic, strategic, investment opportunities. The Credit Agreement contains customary terms for agreements of this type, including representations, warranties and covenants. Interest under the credit facility accrues at a rate per annum of LIBOR plus 2.75%, subject to step-downs based on the Company's ratio of debt to EBITDA. For the fiscal year ending March 31, 2021, the Company is required to make principal payments of $4.3 million per quarter. The term of the Credit Agreement is five years ending February 6, 2023. During the fiscal year ended March 31, 2020, the Company drew down $145.0 million from the credit facility, inclusive of $84.0 million drawn in the three months ended March 31, 2020 to supplement our liquidity and working capital in light of the uncertainty resulting from the COVID-19 pandemic. Earlier draws in the fiscal year March 31, 2020 were used to fund the eTouch 18-month anniversary payment of $17.5 million and to fund opportunistic, strategic, investment opportunities. As of March 31, 2020, the total outstanding amount under the Credit Agreement was $500.0 million. At March 31, 2020, the weighted average interest rate on the term loan and revolving line of credit was 3.18%.

The credit facility is secured by substantially all of the Company's assets, including all intellectual property and all securities in domestic subsidiaries (other than certain domestic subsidiaries where the material assets of such subsidiaries are equity in foreign subsidiaries), subject to customary exceptions and exclusions from the collateral. All obligations under the Credit Agreement are unconditionally guaranteed by substantially all of the Company's material direct and indirect domestic subsidiaries, with certain exceptions. These guarantees are secured by substantially all of the present and future property and assets of the guarantors, with certain exclusions.

At March 31, 2020, we were in compliance with all covenants set forth in our Credit Agreement. Based upon our current projections, we expect our operating cash flows, together with our cash and short-term investment balances, to be sufficient to meet our operating requirements and service our debt for the foreseeable future. However, given the dynamic nature of the COVID-19 pandemic, there can be no assurances that its future impact will not have a material adverse effect on our ongoing business, results of operations, liquidity needs (including the ability to borrow part or all of any remaining revolving capacity), financial covenant compliance or overall financial performance.

On August 5, 2019, our board of directors authorized a share repurchase program of up to $30.0 million of our common stock over 12 months from the approval date, subject to certain price and other trading restrictions as established by the Company. During the fiscal year ended March 31, 2020, we repurchased 505,565 shares of the Company's common stock at a weighted average price of $36.93 per share for an aggregate purchase price of $18.7 million. As of March 31, 2020, the share repurchase program has been suspended due to the COVID-19 pandemic.

To strengthen our digital engineering capabilities and establish a solid base in Silicon Valley, on March 12, 2018, we acquired all of the outstanding shares of eTouch Systems Corp ("eTouch US"), and its Indian subsidiary, eTouch Systems (India) Pvt. Ltd ("eTouch India," together with eTouch US, "eTouch") for approximately $140.0 million in cash, subject to certain adjustments. As part of the acquisition, we set aside up to an additional $15.0 million for retention bonuses to be paid to eTouch management and key employees, in equal installments on the first and second anniversary of the transaction. We agreed to pay the purchase price in three tranches, with $80.0 million paid at closing, $42.5 million on the 12-month anniversary of the close of the transaction, and $17.5 million on the 18-month anniversary of the close of the transaction, subject in each case to certain adjustments. During the three months ended March 31, 2019, we paid the 12-month anniversary purchase price payment of $42.5 million and the retention bonus amount of $7.0 million to the eTouch management and key employees. During the three months ended September 30, 2019, we paid the 18-month anniversary purchase price payment of $17.5 million.

On March 3, 2016, our Indian subsidiary, Virtusa Consulting Services Private Limited ("Virtusa India") acquired approximately 51.7% of the fully diluted shares of Polaris Consulting & Services Limited ("Polaris") for approximately $168.3 million in cash (the "Polaris Transaction") pursuant to a share purchase agreement dated as of November 5, 2015, by and among Virtusa India, Polaris and the promoter sellers named therein. Through a series of transactions, Virtusa increased its ownership of Polaris to 100% for an additional aggregate consideration for $289.4 million, with $21.2 million being paid to the former shareholders of Polaris during the fiscal year ended March 31, 2020. During the three months ended March 31, 2020, Polaris merged with and into Virtusa India, with Virtusa India being the surviving entity.

In connection with the Polaris Transaction, we entered into an amendment with Citi, which became effective upon the closing of the Polaris Transaction, pursuant to which Virtusa was added as a party to the master services agreement with Citi and became a preferred vendor.

On December 31, 2019, in connection with a request for proposal ("RFP") and vendor consolidation process conducted by Citi, and as part of the Company being one of the vendors selected to continue preferred vendor status at Citi and have the opportunity to compete for additional vendor consolidation work, the Company and Citi entered into Amendment No. 5 to the Master Professional Services Agreement, by and between the Company and Citi, dated as of July 1, 2015, as amended (the "Amendment"). Pursuant to the Amendment, (i) Citi agreed to maintain the Company as a preferred vendor under the Resource Management Organization ("RMO") for the provision of IT services to Citi on an enterprise wide basis, (ii) the Company agreed to provide certain savings to Citi for the period from April 1, 2020 to December 31, 2020 ("Savings Period"), which savings can be achieved through productivity and efficiency measures and associated reduced spend; provided that if these productivity and efficiency measures do not achieve the projected savings amounts, the Company is required to provide certain discounts to Citi for the Savings Period to achieve the savings commitments; and (iii) to the extent that Citi awards the Company additional or new work in addition to the services covered by the RFP, the Company agreed to provide Citi with a certain percentage of savings (whether achieved through productivity measures, efficiencies, discounts or otherwise) as a condition to performing such services.

On May 3, 2017, we entered into an investment agreement with The Orogen Group ("Orogen") pursuant to which Orogen purchased 108,000 shares of the Company's newly issued Series A Convertible Preferred Stock, initially convertible into 3,000,000 shares of common stock, for an aggregate purchase price of $108.0 million with an initial conversion price of $36.00 (the "Orogen Preferred Stock Financing"). In connection with the investment, Vikram S. Pandit, the former CEO of Citigroup, was appointed to Virtusa's Board of Directors. Orogen is an operating company that was created by Vikram Pandit and Atairos Group, Inc., an independent private company focused on supporting growth-oriented businesses, to leverage the opportunities created by the evolution of the financial services landscape and to identify and invest in financial services companies and related businesses with proven business models.

Under the terms of the investment, the Series A Convertible Preferred Stock has a 3.875% dividend per annum, payable quarterly in additional shares of common stock and/or cash at our option. If any shares of Series A Convertible Preferred Stock have not been converted into common stock prior to May 3, 2024, the Company will be required to repurchase such shares at a repurchase price equal to the liquidation preference of the repurchased shares plus the amount of accumulated and unpaid dividends thereon. If we fail to effect such repurchase, the dividend rate on the Series A Convertible Preferred Stock will increase by 1% per annum and an additional 1% per annum on each anniversary of May 3, 2024 during the period in which such failure to effect the repurchase is continuing, except that the dividend rate will not increase to more than 6.875% per annum. During the fiscal year ended March 31, 2020, the Company paid $4.2 million as a cash dividend on its Series A Convertible Preferred Stock.

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Acts (the "Tax Act"). The Tax Act contains several key tax provisions that impacted the Company, including the reduction of the corporate income tax rate to 21% effective January 1, 2018. The Tax Act also includes a variety of other changes, such as a one-time repatriation tax on accumulated foreign earnings, a limitation on the tax deductibility of interest expense, a tax on global intangible low-taxed income, base erosion anti-abuse tax payments, and reduction in the amount of executive pay that could qualify as a tax deduction, among others. During the fiscal year ended March 31, 2019, the Company elected to treat several foreign entities as disregarded entities. The earnings of these subsidiaries will be subject to U.S. taxation as well as local taxation with a corresponding foreign tax credit, at the election of the Company. (See Note 17 to the consolidated financial statements for further information).

In response to the COVID-19 pandemic, the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") was enacted on March 27, 2020 in the U.S. The Act includes both tax and nontax measures. The act restores the five-year net operating loss (NOL) carryback for losses arising in any taxable year beginning after 2017, but before 2021. Employers can defer payment for the employer portion of payroll taxes incurred between the date the CARES Act is enacted through December 31, 2020. The CARES Act increases the interest deduction limitation from 30% to 50% of adjusted taxable income (ATI) for tax years beginning in 2019 or 2020. (See Note 17 to the consolidated financial statements for further information).

Our approach to global IT services

Our expertise in supporting a broad range of IT services, ability to engage through a global delivery model that optimizes outcomes and use of proprietary methodologies like platforming to improve IT efficiencies, allow us to be a trusted partner to our clients for their end-to-end IT services requirements.

Broad range of IT services. We provide a broad range of IT services, either individually or as part of an end-to-end solution, from business and IT consulting, customer experience and UX design, digital and cloud engineering, technology implementation, and platform assurance to application & infrastructure management. We have significant domain expertise in large consumer facing industries, such as C&T, BFSI and M&I. Our 2016 acquisition of Polaris has significantly enhanced our domain strengths in BFSI, allowing us to deliver distinctive solutions across the complete spectrum of end-to-end banking and financial services requirements. Our 2018 acquisition of eTouch strengthened our digital engineering capabilities, and established a solid base in Silicon Valley, the hub of high-tech engineering companies. Over the past several years, our investments in building deep capabilities in industry focused solutions have also helped us develop very strong domain-specific capabilities across insurance, healthcare and telecommunications industries as well. We have designed our portfolio of IT services and solutions to enable our clients to improve business performance, use IT assets more efficiently and optimize IT costs.

Enhanced global delivery model. We provide our services through our enhanced global delivery model that leverages a highly-efficient onsite-to-offshore service delivery mix and proprietary tools and processes to manage and accelerate delivery, foster innovation and promote continual improvement of outcomes delivered to our clients.

Platforming approach. We apply our innovative platforming approach across our IT consulting, technology implementation and application outsourcing services to rationalize IT application portfolios and reduce costs, increase productivity and improve the efficiency and effectiveness of our clients' IT application environments.

Digital Transformation Studio (DTS). We provide our services through the use of our DTS which contains certified digital engineers, smart ALM tools and industry assets to deliver accelerated time-to-value for any enterprise, with any business case, for digital transformation.

Our services

Business and IT consulting services. We provide business and IT consulting services to assist our clients in more effectively managing their continually-changing business and IT environments, and aligning their IT investments to better support current and future business requirements. Our business consulting services allow clients to mitigate risks and execute successful IT programs by enabling stakeholder alignment, formulating the business case and return on investment, and defining agreed-upon end outcomes using innovative techniques, such as personal development, day-in-the-life-of journeys and rapid prototyping for each project. We also assist clients in assessing new approaches to improve revenue opportunities within existing markets, developing new products/solutions for existing and new markets and improving retention and share-of-wallet through a better understanding of customer behavior and engagement. We have enhanced our business consulting services portfolio with solutions specific to digital enabling our clients' businesses, allowing them to effectively assess and deploy the right kinds of digital technologies and drive the appropriate outcomes from their digital initiatives.

The goal of our IT consulting group is to help our clients continually improve the performance of their IT application environments by adopting and evolving towards re-useable software platforms. We help clients analyze business and/or technology problems and identify and design platform-based solutions. We also assist our clients in planning and executing their IT initiatives and transition plans.

Our business consulting services allow our clients to critically look at business processes, IT environments and their customer facing application systems, and execute targeted programs that improve performance of business-critical systems, processes and services:

Business Transformation Services (BT)	Digital Transformation (DT) Services	Cloud Transformation (CT) Services
Strategic Research services		
● Advisory/Target Operating Model ● Business Process Re-engineering/Business Process Management (BPM) ● Application Portfolio Rationalization ● Business/Technology Alignment Analysis	● Digital Strategy User Experience and Design ● Application and Platform Engineering Analytics, Insights and Data ● Intelligent Automation Content & Customer Experience ● Cyber Security	● Cloud Strategy ● Cloud Native Applications ● Cloud Migration ● Capex to Opex Models
Strategic Roadmap, Conceptual Design, Solution Selection & Solution Design		

During our consulting engagements, we often leverage proprietary frameworks and tools to differentiate our services from our competitors and to accelerate delivery. Examples of our unique frameworks and tools include our strategic enterprise information roadmap framework, which is a structured service offering for recommending the right IT platform, solution architecture, transition strategy and approach to meet current and future business requirements, our business process visualization tools, which enable us to analyze, design and optimize enterprise business processes. We have also invested in our consulting services to help our clients effectively manage large, complex IT programs, and evaluate and develop strategies to enable their enterprises for the digital consumer, and support the development of new, differentiated customer experience improvement programs.

We believe that our consulting services are further differentiated by our ability to leverage our global delivery model across our engagements. Our onsite teams work directly with our clients to understand and analyze the current-state problems and to design conceptual solutions. Our offshore teams work seamlessly with our onsite teams to design and expand the conceptual solution, research alternatives, perform detailed analyses, develop prototypes and proofs-of-concept and produce detailed reports. We believe that this approach reduces cost, allows us to explore more alternatives in the same amount of time and improves the quality of our deliverables.

Technology implementation services. Our technology implementation services involve building, testing, deploying, maintaining and supporting IT applications, and consolidating and rationalizing our clients' existing IT applications and environments into platforms. Leveraging our deep skills in software engineering and our expertise in the innovative use of technology to solve business problems, we help our clients' CIOs make the right decisions on technology platform selection, support the implementation of core application systems and solve critical business problems, while ensuring that the CIOs IT asset estate remains optimized and cost-effective and supports current and future business requirements.

Our technology implementation services include the following development, legacy asset management, information management and testing services:

Application Development Services	**Legacy Asset Management Services**	**Information Management Services**	**Testing and Application Assurance Services**

● Application Development
● Software Product Engineering
● CRM Implementations
● SAP Implementations
● Content Management Services
● Enterprise Mobility Services
● Cloud Computing
● Social Media Solutions
● Cloud Engineering Services CI/CD & Devops Services
	● Systems Consolidation and Rationalization
	● Technology Migration and Porting
	● Web-enablement of Legacy Applications
		● Data Management Services
		● Business Intelligence, Reporting and Decision Support
		● Master Data Management
		● Data Integration
		● Big Data Analytics
		● Data Lake
		● Data on the Cloud
			● Software Quality Assurance
			    ● Testing Frameworks
			    ● Test Automation
			    ● Performance Testing
			    ● Mobility Testing
			    ● Continuous Testing Services
			    ● Test Data Management
			● Managed testing services

Our technology implementation services span a variety of capabilities, including custom application development, testing, maintenance and support services, and packaged software implementation services. We have extensive and deep partnerships with leading technology platform vendors. We have incorporated rapid, iterative development techniques into our approach, extensively employing prototyping, solution demonstration labs and other collaboration tools that enable us to work closely with our clients to understand and deliver to their most challenging business requirements. Leveraging our business consulting services with advanced techniques like our experience design workshops, we are able to develop and deploy applications quickly, often within solution delivery cycles of less than three months.

Application outsourcing services. We provide a broad set of IT application outsourcing services that enable us to provide comprehensive support for our clients' needs to manage and maintain their software applications and platforms cost-effectively. We endeavor to continually improve the applications under our management and to evolve our clients' IT applications into platforms. We combine a deep understanding of software engineering with an innovation mindset to provide targeted outsourcing services that not only help reduce the cost of existing IT operations, but also improve the quality of applications over time.

Our outsourcing services leverage innovative techniques and methodologies to significantly improve IT efficiencies by reducing cycle time and compressing the work required to achieve specific outcomes. We help our clients reduce the cost of business operations by preemptively identifying and resolving issues in application support and maintenance. We make extensive use of Agile development methodology to reduce and minimize business disruptions due to IT issues and support the CIO organization in improving the business experience by leveraging RPA to drive automation and process efficiencies.

Our application outsourcing services include the following application and platform management, infrastructure management and IT efficiency improvement services:

Application & Platform Management Services	Infrastructure Management Services	IT Efficiency Improvement Services
● Application Maintenance and Support ● Maintenance and Enhancement of Applications ● Cloud-environment Management & Support	● Managed Infrastructure Services ● Remote Application Monitoring & support ● Cloud Management services	● Code Quality Assurance ● Gamified development environments ● Agile DevOps ● Gamified Continuous Integration/ Continuous Deployment (CI/CD)

We believe that our application outsourcing services are differentiated because they are based on the principle of migrating installed applications to flexible platforms that can sustain further growth and business change. We do this by:

- developing a roadmap for the evolution of applications into platforms
- establishing an ongoing planning and governance process for managing change
- analyzing applications for common patterns and services
- identifying application components that can be extended or enhanced as core components
- integrating new functions, features and technologies into the target architecture

We continue to strengthen our ability to deliver infrastructure management services (“IMS”) and IT support related services to our clients, helping them manage their IT operations effectively through an offshore outsourced model. We have expanded our investments to deliver seamless infrastructure management services to our clients around the clock, but also to perform these services in an automated, cost-effective manner. Further, we have invested in building out strong capabilities in improving efficiencies in the developer environment. Our solutions around gamified Continuous Integration/ Continuous Deployment (“gamified CICD”) and Agile DevOps have helped us create a highly agile development environment that allows our clients to accelerate development cycles, improve time-to-market, and become more responsive to changes in markets in which they operate.

Global delivery model. We have developed an enhanced global delivery model that allows us to provide innovative IT services to our clients in a flexible, cost-effective and timely manner by leveraging an efficient onsite-to-offshore service delivery mix and our proprietary global innovation process (“GIP”), and also enables us to manage and accelerate delivery, foster innovation and promote continual improvement. We manage to a targeted 30% to 70% onsite-to-offshore service delivery mix, which allows us to provide value-added services rapidly and cost-effectively. During the past three fiscal years, we performed at least 72% of our total annual billable hours at our offshore global delivery centers. However, for the fiscal year ending March 31, 2021, we anticipate the onsite ratio to slightly increase due to new client engagements and existing work on larger, more complex programs requiring a larger onsite presence. Our delivery mix may also fluctuate from time to time due to several other factors, including new and existing client delivery requirements, and the impact of the COVID-19 pandemic in the geographic areas from which we perform our services, as well as the impact of any acquisitions. Using our global delivery model, we generally maintain onsite teams at our clients’ locations and offshore teams at one or more of our global delivery centers, although our ability to staff teams onsite may be impacted by COVID-19 pandemic and related governmental restrictions. Our onsite teams are generally composed of program and project managers, industry experts and senior business and technical consultants. Our offshore teams are generally composed of project managers, technical architects, business analysts and technical consultants. These teams are typically linked together through common processes and collaboration tools and a communications infrastructure that features secure, redundant paths enabling seamless global collaboration. Our global delivery model enables us to provide around the clock, world class execution capabilities that span multiple time zones.

All of our major delivery centers, located in Hyderabad, Chennai and Bangalore in India and Colombo in Sri Lanka have been reassessed at CMMI Level 5 maturity. This re-assessment covered all our offshore locations and met the requirements of CMMI-DEV and CMMI-SVC models. The re-assessment was completed in August 2018. CMMI is a process improvement model used to improve a company's ability to manage project deliveries to ensure predictable results. CMMI's process levels are regarded as the standard in the industry for evolutionary paths in software and systems development and management.

Our enhanced global delivery model is built around our proprietary GIP, which is a software lifecycle methodology that combines our experience building platform-based solutions for global clients with leading industry standards such as rational unified process, eXtreme programming, capability maturity model and product line engineering. By leveraging GIP templates, tools and artifacts across diverse disciplines such as requirements management, architecture, design, construction, testing, application outsourcing and production support, each team member is able to leverage software engineering and platforming best practices and extend these benefits to clients.

During the initial phase of an engagement, we work with the client to define the specific approach and tools that will be used for the engagement. This process tailoring takes into consideration the client's business objectives, technology environment and currently-established development approach. We believe our innovative approach to adapting proven techniques into a custom process has been an important differentiator that allows us to deliver substantially greater value to our clients in a cost effective and timely manner.

The backbone of GIP is our global delivery operations infrastructure. This infrastructure combines enabling tools and specialized teams that assist our project teams with important enabling services such as workforce planning, knowledge management, integrated process and program management and operational reporting and analysis.

Two important aspects of our global delivery model are innovation and continuous improvement. A dedicated process group provides three important functions: they continually monitor, test and incorporate new approaches, techniques, tools and frameworks into GIP; they advise project teams, particularly during the process-tailoring phase; and they monitor and audit projects to ensure compliance. New and innovative ideas and approaches are broadly shared throughout the organization, selectively incorporated into GIP and deployed through training. Clients also contribute to innovation and improvement as their ideas and experiences are incorporated into our body of knowledge. We also seek regular informal and formal client feedback. Our global leadership and executive team regularly interact with client leadership and each client is typically given a formal feedback survey on a quarterly basis. Client feedback is qualitatively and quantitatively analyzed and forms an important component of our teams' performance assessments and our continual improvement plans.

Platforming approach. We apply our innovative platforming approach across our business and IT consulting, technology implementation and application outsourcing services to rationalize IT application portfolios and reduce costs, increase productivity and improve the efficiency and effectiveness of our clients' IT application environments. As part of our platforming approach, we assess our clients' application environments to identify common elements, such as business processes and rules, technology frameworks and data. We incorporate those common elements into one or more application platforms that can be leveraged across the enterprise to build, enhance and maintain existing and future applications in a leaner environment. Our platforming approach enables our clients to continually improve their software platforms and applications in response to changing business needs and evolving technologies while also realizing long-term and ongoing cost savings.

Our platforming approach is embodied in a set of proprietary processes, tools and frameworks that address the fundamental challenges confronting IT executives. These challenges include managing the rising costs of technology ownership, while simultaneously supporting business demands to foster innovation, accelerate time-to-market, improve service and enhance productivity. Our platforming approach draws from analogs in industries that standardize on platforms composed of common components and assemblies used across multiple product lines. Similarly, we work with our clients to evolve their diverse software assets into unified, rationalized software platforms. Our platforming approach leads to simplified and standardized software components and assemblies that work together harmoniously and readily adapt to support new business applications. For example, a software platform for trading, once developed within an investment bank, can be the foundation for the bank's diverse trading applications in equities, bonds and currencies. Our platforming approach stands in contrast to traditional enterprise application development projects, where different applications remain separate and isolated from each other, replicating business logic, technology frameworks and enterprise data.

At the center of our platforming approach is a five-level maturity framework that allows us to adapt our service offerings to meet our clients' unique needs. Level 1 maturity in our platforming approach represents traditional applications where every line of code is embedded and unique to the application and every application is monolithic. Level 2 applications are less monolithic and more flexible and demonstrate characteristics such as configurability and customizability. Level 3 applications are advanced applications where the common code components and software assets are leveraged across multiple application families and product lines. Level 4 applications are framework-driven where the core business logic is reused with appropriate custom logic built around it. At the highest level of maturity are Level 5 applications, where platforms are greatly leveraged to simplify and accelerate application development and maintenance. At lower levels of maturity, few assets are created and reused. Consequently, agility, total cost of ownership and ability to quickly meet business needs are suboptimal. As organizations mature along this continuum, from Level 1 to Level 5, substantial intellectual property is created and embodied in software platforms that enable steady gains in agility, reduce overall cost of ownership and accelerate time-to-market for business applications and services.

Our platforming approach improves software quality and IT productivity. Software assets within platforms are reused across applications, their robustness and quality improve with time and our clients are able to develop software with fewer defects. A library of ready-made building blocks significantly enhances productivity and reduces software development risks compared to traditional methods. This establishes a cycle of continual improvement in that the more an enterprise embraces platform-based solutions, the better the quality of its applications will be, and the less the effort required to build, enhance and maintain them.

Our IT solutions

Our go-to-market strategy is to support our clients in accelerating business growth, while reducing the cost of IT operations. Our DES solutions help our clients to support business growth initiatives, while our OES solutions allow our clients to improve IT efficiencies and reduce costs. Underlying these two broad solution areas is a set of transformational solution capabilities that support and augment our ability to add value through DES and OES capabilities.

Digital Engineering Services-based solutions. Our digital engineering services, or DES solutions, are designed to enable our clients to accelerate business growth by capitalizing on market adjacencies, developing new, complementary market segments, creating digital storefronts, and delivering engaging digital consumer experiences. Our DES solutions harness innovative technology advances in mobility, social media, cloud computing and big data analytics to help our clients modernize their IT application environments and enable their businesses to capitalize on the new wave of consumer demand and expectations.

We have made significant investments in building out and expanding our digital capabilities including investments in UX, digital consulting, digital engineering, AI/ML and cloud. From time to time, we conduct market surveys that help us benchmark our clients' survey results against the best in their industry. We use these surveys to help our clients develop a roadmap to digitally transform their businesses, leveraging our learning from what the best organizations in the industry are doing.

We offer the following solutions which enable our clients to address or serve the growing needs of the millennial generation:

Strategy & Innovation	Design & Engineering	Optimization & Automation
● Innovation Consulting	● User experience Design	● Internet of Things
● Mobile Strategy	● Mobile & Wearable Apps	● Artificial Intelligence & Cognitive Computing
● Omni-channel Strategy	● Responsive Web Development	● Big Data & Analytics
● Content Strategy	● Portal Simplification	● Enterprise Mobile Management
● Data Management Strategy	● Digital Marketing & Commerce	● Cloud Deployment & Migration
● Cloud Strategy	● Employee Engagement	● Robotics Process Automation
● Cyber Security	● Enterprise Data Hubs	

We have invested in creating digital technology labs and innovation hubs within our global delivery centers to foster the development of emerging technology solutions and enable our clients to become digital enterprises. Our acquisition of eTouch Systems Corp. in March 2018, has helped strengthen our digital engineering capabilities, and establish a solid base in Silicon Valley, the hub of high-tech engineering companies. This acquisition has improved the digital engineering services we provide our clients, and helps reinforce our leadership position as a go-to partner for digital business transformation programs.

Operational Excellence Services—based solutions. Our OES solutions enable our clients to use innovative approaches to effort compression, IT simplification and automation to generate significant improvements in IT efficiencies in their organizations, including significant cost savings, improved ability to manage and deploy high quality, robust applications, accelerate time to market and reduce risks to business from IT inefficiencies. Our OES solutions use our proprietary platforming approach, pre-emptive application management techniques, test automation, Agile DevOps, gamified CI/CD, cloud migration and hosting, and RPA to help our client CIOs and COOs reduce technical debt, lower total cost of ownership of IT assets, improve operational efficiencies and accelerate time to market. We use proprietary business consulting methodologies to help clients improve accuracy and scope of the solution being delivered, align organizational stakeholders on common, shared objectives, and accelerate the solution development process. Our unique platforming methodology helps clients rationalize their IT application infrastructure and develop lean, optimized enterprise application platforms that significantly lower the cost of maintenance, while improving the agility of the business to respond to emerging market demands.

We provide a set of OES solutions across the IT lifecycle:

IT & Business Consulting	Platforming	Solutions	Application Outsourcing
● Experience Design Workshops ● Business Process Re-engineering	● Lean Outcomes ● Platforming	● Digital Process Automation ● Robotics Process Automation (RPA) ● Cloud Migration	● Pre-emptive Application Management ● IT managed services

We continue to increase our investments in areas like cloud computing, RPA, and gamified CICD through the establishment of innovation labs to support solution development and co-create proofs-of-concept and minimum viable products with our clients.

Transformational solutions. We act as trusted advisors to our clients, combining our core services with deep industry specialization to deliver transformational solutions that help position our clients' businesses for competitive advantage in their chosen markets.

Our transformational solutions across IT and business consulting, platforming, technology and application outsourcing areas include:

IT & Business Consulting	Platforming	Solutions	Application Outsourcing
● Domain solutions ● Business process re-engineering ● Large program management	● Large global platforms	● Claims management ● Policy administration ● Client lifecycle management ● Know your customer ● Regulatory & compliance ● Billing systems ● Customer experience management ● Provider lifecycle management ● Pharmaco-vigilance	● Application support & maintenance platforms

We leverage our business consulting expertise to manage large, complex programs and deliver critical business process re-engineering advice to our clients. We have recently expanded our platforming expertise to cover large programs impacting global business platforms and multi-country implementations. The industry and domain expertise we have developed over the past decade has helped us develop business solutions like claims management and policy administration solutions for insurance companies; client lifecycle management, know your customer, and regulatory and compliance solutions for banks; member reach and care management solutions for healthcare providers; billing solutions for telecommunication providers; and customer experience management solutions for leisure and hospitality businesses.

Sales and marketing

Our global sales, marketing and business development teams seek to develop strong relationships with IT and business executives at prospective and existing clients to establish long-term business relationships that continue to grow in size and strategic value. At March 31, 2020 and 2019, we had 409 and 430 marketing and business development full-time equivalent employees, respectively, including sales managers, sales representatives, client service partners, account managers, telemarketers, sales support personnel and marketing professionals.

The sales cycle for our services often includes initiating contact with a prospective client, understanding the prospective client's business challenges and opportunities, performing discovery or assessment activities, submitting proposals, providing client case studies and references and developing proofs-of-concept or solution prototypes. We organize our sales teams in strategic business units by geography and with professionals who have specialized industry knowledge. This industry focus enables our sales teams to better understand the prospective client's business and technology needs and to offer appropriate industry-focused solutions.

Sales and sales support. Our sales and sales support teams focus primarily on identifying, targeting and building relationships with prospective clients. These teams are supported in their efforts by industry specialists, technology consultants and solution architects, who work together to design client-specific solution proposals. Our sales and sales support teams are based in offices throughout the United States, Europe and Asia.

Account management. We assign experienced account managers who build and regularly update detailed account development plans for each of our clients. These managers are responsible for developing strong working relationships across the client organization, working day-to-day with the client and our service delivery teams to understand and address the client's needs. Our account managers work closely with our clients to develop a detailed understanding of their business objectives and technology environments. We use this knowledge to identify and target additional consulting engagements and other outsourcing opportunities.

Marketing. We maintain a marketing presence in the United States, Europe (including the United Kingdom), India, and Sri Lanka. Our marketing team seeks to build our brand awareness and generate target lists and sales leads through industry events, press releases, thought leadership publications, direct marketing campaigns and referrals from clients, strategic alliances, and industry analysts. The marketing team maintains frequent contact with industry analysts and experts to understand market trends and dynamics.

Strategic alliances. We have strategic alliances with software companies, some of which are also our clients, to provide services to their customers. We believe these alliances differentiate us from our competition. Our extensive engineering, quality assurance and technology implementation and support services to software companies enable us to compete more effectively for the technology implementation and support services required by their customers. In addition, our strategic alliances with software companies allow us to share sales leads, develop joint account plans and engage in joint marketing activities.

Clients and industry expertise

We market and provide our services to companies in North America, Europe and Asia. For additional discussion regarding geographic information, see Note 25 to our consolidated financial statements included elsewhere in this Annual Report. A majority of our revenue for the fiscal year ended March 31, 2020 was generated from Forbes Global 2000 firms or their subsidiaries. We believe that our regular, direct interaction with senior executives at these clients, the breadth of our client relationships and our reputation within these clients as a thought leader differentiate us from our competitors. The strength of our relationships has resulted in significant recurring revenue from existing clients. For instance, our largest client for the fiscal year ended March 31, 2020, Citi, accounted for 16% of our total revenue, and for the fiscal years ended March 31, 2019 and 2018, accounted for 18% and 19%, respectively.

We focus primarily on three industries: C&T, BFSI and M&I. We build expertise in these industries through our customer experience and industry alliances by hiring industry specialists and by training our business analysts and other team members in industry-specific topics. Drawing on this expertise, we strive to develop industry-specific perspectives and services.

Communications and technology. For our communications clients, we focus on customer service, sales and billing functions, and regulatory compliance, helping them improve service levels, reduce time-to-market and modernize their IT environments. For our technology clients, which include hardware manufacturers and software companies, we provide a wide range of industry-specific service offerings, including product management services, product architecture, engineering and quality assurance services, and professional services to support product implementation and integration. These clients often employ cutting-edge technology and generally require strong technical skills and a deep understanding of the software product lifecycle.

Banking, financial services and insurance. We provide services to clients in the retail, wholesale and investment banking areas, financial transaction processors, and insurance companies encompassing life, property and casualty and health insurance. For our BFSI clients, we have developed industry specific services for each of these sectors, such as an account opening framework for banks, compliance services for financial institutions, and customer self-service solutions for insurance companies. The need to rationalize and consolidate legacy applications is pervasive across these industries and we have tailored our platforming approach to address these challenges.

Media and information. We focus primarily on solutions involving electronic publishing, online learning, content management, information workflow and mobile content delivery as well as personalization, search technology and digital rights management. Many M&I providers are focused on building common platforms that provide customized content from multiple sources, customized and delivered to many consumers using numerous delivery mechanisms. We believe our platforming approach is ideally suited to these opportunities.

Competition

The IT services market in which we operate is highly competitive, rapidly evolving and subject to shifting client needs and expectations. This market includes a large number of participants from a variety of market segments, including:

- offshore IT outsourcing firms, such as Cognizant Technology Solutions Corporation, HCL Technologies Limited, Infosys Technologies Limited, Capgemini Service SAS, Tata Consultancy Services Limited, Tech Mahindra Limited and Wipro Limited

- consulting and systems integration firms, such as Accenture PLC., Capgemini Service SAS, Computer Sciences Corporation, Deloitte Consulting LLP and IBM Global Services

We also occasionally compete with in-house IT departments, smaller vertically-focused IT service providers and local IT service providers based in the geographic areas where we compete. We expect additional competition from offshore IT outsourcing firms in emerging locations such as Eastern Europe and Latin America, offshore IT service providers with facilities in less expensive geographies within India and lower cost, near shore centers established by our competitors to provide accelerated staffing alternatives at competitive pricing.

We believe that the principal competitive factors in our business include technical expertise and industry knowledge, a breadth of service offerings to provide one-stop solutions to clients, a well-developed recruiting, training and retention model, responsiveness to clients' business needs, and quality of services. We believe that we compete favorably with respect to these factors. Many of our competitors, however, have significantly greater financial, technical and marketing resources and a greater number of IT professionals than we do. We cannot assure you that we will continue to compete favorably or that we will be successful in the face of increasing competition.

Human resources

Our human resource strategy is based on the philosophy of "ATTRACTàRETAINà GROW". Our human capital development framework is aligned to our ability to hire, retain and grow which allows us to invest in the development of our team members in a focused manner, while keeping our team members culturally anchored to our core values. We are able to accomplish this by focusing our people management strategy on six key components: recruiting, performance management, training and development, employee engagement and communication, as well as compensation and retention. Our people management strategy also includes engaging subcontractors at all of our locations, especially in niche or hard to hire skills, on an as needed basis for specific client engagements.

Recruiting. Virtusa's global talent acquisition process addresses our need for a large number of highly-skilled team members. Our progressive hiring strategy focuses on: creating employer brand and sourcing through various social channels; evaluation of candidates through Hackathons/Codeathons and robust processes for Leadership Hiring.

In India and Sri Lanka, we have taken a step forward in campus outreach by creating "Centers of Excellence" (COEs) where we partner with colleges to develop IT curriculum, support and train their faculty and award sponsorships. These COEs focus on current and futuristic skills like Java, JS Angular, Data Science, Big Data, Talend, Cloud (AWS and GCP), CRM, specialized testing, BPM, front end engineering and Adobe CQ, directly improving quality of hires, and ensuring team members are project-ready faster. Our COE initiative in India commenced in the year 2014 and has grown from five colleges to twenty-five colleges during our fiscal year 2020. We have established thirty-three COE's at twenty-five colleges spread across India. In addition, we have also anchored a 5-year Master's in Technology program in Computer Science Engineering, specializing in Full Stack Engineering. This is a very unique initiative we have started across three prestigious institutes in the country namely VIT University (Vellore), Chitkara University (Chandigarh) and Sri Krishna College of Engineering and Technology (Coimbatore). This program primarily aims at preparing candidates to be an industry ready full stack engineer, through practical application internships and co-op Projects.

We have repeatedly won Candidate Experience Awards for delivering outstanding experiences to candidates throughout the recruitment process in geographies like North America and APAC. In our fiscal year 2020, we won Candidate Experience Awards in North America, APAC and the United Kingdom.

Performance management. We became one of the trend setters in the industry by taking the step of moving away from the traditional way of measuring employee performance and adopted a new platform called REPS (Real-time Engagement and Performance Score). REPS is developed internally by our team and captures most of the performance areas on a real-time basis. The platform focuses on the need of having a transparent and gamified performance system for our workforce. The platform also captures the engagement level of our team members, not just by measuring our team members on certain key performance areas, but also on measuring them on their self-development, their teamwork and their impact on our overall organization. Real-time performance data is visible to everyone, enabling a continuous feedback mechanism, which fosters trust, and empowers employees to be accountable for their performance in real time and not semi-annually as in the earlier framework. We have a roadmap for scaling up for larger population in the coming years. We won the Silver International Stevie Award for HR Department of the Year for innovation in employee empowerment.

Training and development. While we focus on hiring the best talent, our primary focus is on developing and reskilling our team members to ensure our team members continue to remain updated from a technology standpoint. We also focus on social learning through digital platforms to enable our team members to collaborate and mentor each other in new technologies. In fiscal year 2020, we were able to deliver an average of 56 hours of training to our team members, resulting in higher deployment and higher retention as compared to the previous fiscal year. With the Digital Transformation and Cloud Transformation driven growth strategy that we embrace, focus on Cloud & Digital certifications have gained momentum. We currently have over 1,000 technology professionals certified on Cloud AWS / GCP & Azure. Virtusa has been recognized by ATD (Association for Talent Development) for the successful implementation of its Employee Learning week in December 2019, a reward accomplished consistently for last 3 years. Transformation journey in Virtusa has paved way for building the continued focus around leadership development. Virtusa has evolved the GOLD (Global One Leadership Development) Program in partnership with reputed training organizations to coach and build leaders who can manage large scale and strategic programs for the company. Our endeavor to create ICF certified coaches within the organization has commenced with the first cohort of 19 coaches.

Employee engagement and communication. Virtusa's retention philosophy is based on maximizing employee engagement through multiple platforms that include: conducting mobile enabled, AI powered surveys (InMyOpinion), to seek feedback from team members regarding their life and career at Virtusa and studying talent trends through predictive analytics on turnover and performance. Feedback received through these surveys and predictive analytics are used to implement key people programs and initiatives. We strongly believe that open communication is essential to our team-oriented culture. Through regular company-wide updates from senior management, complemented by team member sessions at the regional, local and account levels, as well as regular town hall sessions, we ensure that we engage and interact with all our employees to optimize individual career paths while fostering a team culture. We use a digital platform called RAVE for acknowledging each other on a real-time basis on good work performed by our team members. We also use the platform to promote the passion, innovation, respect and leadership (PIRL) which are our core values. Yammer is another social digital business platform that we widely use to interact and share ideas and information with our colleagues. This strengthens collaboration and facilitates knowledge sharing, while driving transparency. We have been certified as one of the U.K.'s Top Employers for the 9th consecutive year, providing excellent employee conditions, nurturing talent, and striving to continuously improve employment practices.

Compensation. For compensation, we use a total reward strategy which strives to design, administer and communicate the most effective reward programs with maximum motivational impact to drive desired behaviors**.** Our compensation strategy is based on a "3P" model which gives equal weight to Pay for Person (person premium based on competency assessment, skill and market demand); Pay for Position (position evaluation and market pay level) and Pay for Performance (individual contributions and organization's performance). We consistently benchmark our compensation and benefits with relevant market data in the industry. Our compensation philosophy rewards performance by linking both variable compensation and salary increases to performance.

Retention. To attract, retain and motivate our team members, we seek to provide an environment that rewards entrepreneurial initiatives, adaptive leadership and performance. During the twelve months ended March 31, 2020, we experienced voluntary team member attrition at a rate of 16.2% and involuntary team member attrition at a rate of 9.3%. We remain committed to improving and sustaining our voluntary attrition levels consistent with our long-term stated goals.

We ensure retention of the right talent in the organization through various initiatives like:

- providing re-skilling and development opportunities to our team members
- sharing clear career paths with the team members and doing timely rotations so that team members get better exposure
- providing team members opportunities to interact with our clients in their transformational journey
- creating a transparent performance management system where team members can see each other's achievements through leader boards, thus inducing a competitive yet healthy work culture
- providing digital tools to ensure that team members are able to share their views cutting across all levels of the organization on a non-moderated platform
- ensuring that team members own their performance by focusing on self-development, knowing how to contribute to the team, and being aware of how they can make an impact on the overall organization
- adopting a system to manage our people-related transactions in a more efficient way based mainly on self-service modules, hence empowering our leaders and their team members to take faster and informed decisions related to people matters

At March 31, 2020, we had 22,830 team members worldwide. We also engage outside contractors from time to time to supplement our services on an as needed basis. None of our team members are covered by a collective bargaining agreement or represented by a labor union. We consider our relations with our team members to be good.

Network and infrastructure

Our global IT infrastructure is designed to provide uninterrupted service to our clients. Through a combination of targeted investments and a strong understanding of the emerging cybersecurity trends, we currently have a mature capability that can support any specific security and compliance requirements that our clients may have, in addition to the industry best-in-class safeguards that we already use to protect the client's network and infrastructure.

We use a secure, high-performance communications network to enable our clients' systems to connect seamlessly to each of our offshore global delivery centers. We provide flexibility for our clients to operate their engagements from any of our offshore global delivery centers by using mainstream network topologies, including site-to-site virtual private networks, international private leased circuits and multiprotocol label switching. We also provide videoconferencing, voice conferencing and Voice over Internet Protocol capabilities to our global delivery teams and clients to enable clear and uninterrupted communication in our engagements, be it intra-company or with our clients.

We monitor our network performance on a 24×7 basis to ensure high levels of network availability and periodically upgrade our network to enhance and optimize network efficiency across all operating locations. We use leased telecommunication lines to provide redundant data and voice communication with our clients' facilities and among all our facilities in Asia, the United States and Europe. We also maintain multiple sites across our global delivery centers in Asia, particularly our largest centers in India and Sri Lanka, and the United States to provide for continuity of infrastructure and resources in the case of natural disasters or other events that may cause a business interruption.

Our network infrastructure is secured using two-factor authentication for remote access, mobile device management, data loss prevention, advanced malware protection and periodic external vulnerability assessments and penetration testing. We are ISO 27001 and ISO 22301 certified in all our major delivery centers to safeguard clients' and Our own information assets, and believe that we meet all our clients' stringent security requirements for ongoing business with them. Annual re-certification is performed by a qualified external third-party agency. The review examines our information security framework and comments on its strengths and weaknesses. There are training and annual recertification requirements for all employees in addition to the frequent messaging on the importance of cybersecurity. Given the increasing sophistication of today's cyberattacks, we may be unable to prevent a security breach.

Intellectual property

We believe that our continued success depends in part on the skills of our team members, the ability of our team members to continue to innovate and our intellectual property rights. We rely on a combination of patent, copyright, trademark and design laws, trade secrets, confidentiality procedures and contractual provisions to protect our intellectual property rights and proprietary methodologies. It is our policy to enter into confidentiality agreements with our team members and consultants that generally provide that any confidential or proprietary information developed by us or on our behalf be kept confidential. We have also designed procedures to generally control access to and distribution of our proprietary information. We pursue the registration of certain of our trademarks and service marks in the United States and other countries. We have registered the mark "Virtusa" in the United States, the European Community, India, Australia and Mexico and have filed for registration of "Virtusa" in Sri Lanka, Canada, Malaysia and Singapore. We similarly have registered or applied for registration of Virtusa's stylized "Virtusa" mark in the United States, the European Community, India, Australia, Mexico, Canada, Malaysia, Singapore, and the United Kingdom. We have registered in the United States and the European Community the service marks "BPM Test Drive" which we use to describe our consulting service offering involving business process management or BPM project implementation and "ACCELERATING BUSINESS OUTCOMES," which we use to describe the benefits of our services. We also hold a U.S. registration for PRODUCTIZATION and have a pending U.S. application for CONDUIT. We have one patent issued in the United States and Europe, and several pending patent applications.

Our business involves the development of IT applications and other technology deliverables for our clients. Our clients usually own the intellectual property in the software applications that we develop for them. We generally implement safeguards designed to protect our clients' intellectual property in accordance with their needs and specifications. Our means of protecting our and our clients' proprietary rights, however, may not be adequate. Despite our efforts, we may be unable to prevent or deter infringement or other unauthorized use of our and our clients' intellectual property. Legal protections afford only limited protection for intellectual property rights and the laws of India and Sri Lanka do not protect intellectual property rights to the same extent as those of the United States and the United Kingdom. Time-consuming and expensive litigation may be necessary in the future to enforce these intellectual property rights.

In addition, we cannot assure you that our intellectual property or the intellectual property that we develop for our clients does not or will not infringe the intellectual property rights of others. Defending against such claims, even if they are not meritorious, could be expensive and divert our attention from operating our company. If we become liable to third parties for infringing upon their intellectual property rights, we could be required to indemnify our client(s), pay substantial damage awards and be forced to develop non-infringing technology, obtain licenses, or cease delivery of the applications that contain the infringing technology.

Virtusa Sustainability Program

Our sustainability program is based on the following core elements: health and safety, environment (Code Green), business continuity management, information security, labor standards and diversity, anti-bribery and corruption, and management engagement and social impact. Our sustainability program is backed by relevant certifications, policies, and employee training for these core areas. This includes certification for OHSAS 18001:2007 (health and safety), ISO 14001:2015 (environmental management), ISO 22301:2012 (business continuity), and ISO 27001:2013 (information security).

People Value. Our goal is to provide a work environment that values diversity and innovation while providing learning opportunities for our team members so that they have the skills and knowledge to play the leadership roles to support our long-term goals. As a result, we have implemented multiple training programs including the Global One Leadership Program, Launchpad, Management Development Programs, and the Women in Leadership Program.

Environmental Stewardship. The significant environmental aspects of our business operations are managed through, Code Green, our environmental management system. We have set metrics to monitor and target the reduction of

GHC emissions, energy usage, and water usage. We also recycle e-waste and paper. We believe that this transparency and reporting has enabled us to improve our sustainability program continuously. As such, our emissions data for scopes 1, 2, and 3 have limited assurance under ISAE3000 from Ernst & Young. In addition, we report our emissions to the Carbon Disclosure Project (CDP), Climate Change program, and the Supply Chain program. In 2019, we received a performance rating of "B" (Management band), which is higher than the global average (C-) and the North American regional average (C). Our Supplier Engagement Rating for 2019 was “A-”.

Social Value. We focus on strategic corporate social responsibility (CSR) projects that provide long-term value and use our engineering excellence to solve social issues. In our fiscal year ended March 31, 2020, we focused on two main initiatives. We sponsored the Carbon Zero Challenge for the second consecutive year. The challenge, hosted jointly by the Indian Institute of Technology Madras (IIT Madras) and the Industrial Waste Management Association (IWMA), aims to identify innovative solutions for energy and environmental problems in India. We also continued our partnership with Biodiversity Sri Lanka (BSL) on the Kanneliya Reforestation Program which aims to restore 10 hectares of degraded forest land in Sri Lanka. In addition, we have multiple projects in the pipeline. These include using technology to improve healthcare and developing a software system for Biodiversity Sri Lanka to track their participants’ project contributions towards the Sustainable Development Goals.

Business segments and geographic information

We view our operations and manage our business as one operating segment. For information regarding net revenue by geographic regions for each of the last three fiscal years, see Note 25 to our consolidated financial statements for the fiscal year ended March 31, 2020 contained in this Annual Report.

Our corporate and available information

We were originally incorporated in Massachusetts in November 1996 as Technology Providers, Inc. We reincorporated in Delaware as eRunway, Inc. in May 2000 and subsequently changed our name to Virtusa Corporation in April 2002. Our principal executive offices are located at 132 Turnpike Road, Suite 300, Southborough, Massachusetts 01772, and our telephone number at this location is (508) 389-7300. Our website address is *www.virtusa.com*. We have included our website address as an inactive textual reference only. The information on, or that can be accessed through, our website is not part of, or incorporated by reference into, this Annual Report. 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 Exchange Act are available free of charge through the investor relations page of our internet website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. The SEC maintains an internet website (*https://www.sec.gov*) that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. In addition, we make available our Code of Business Conduct and Ethics free of charge through our website. We intend to disclose any amendments to, or waivers from, our Code of Business Conduct and Ethics that are required to be publicly disclosed pursuant to rules of the SEC and the NASDAQ Stock Market by filing such amendment or waiver with the SEC or posting it on our website.

Item 1A. ***Risk Factors.***

We operate in a rapidly changing environment that involves a number of risks, some of which are beyond our control. This discussion highlights some of the risks which may affect future operating results. These are the risks and uncertainties we believe are most important for you to consider. Our operating results and financial condition have varied in the past and may vary significantly in the future depending on a number of factors. We cannot be certain that we will successfully address these risks. If we are unable to address these risks, our business may not grow, our stock price may suffer and/or we may be unable to stay in business. Additional risks and uncertainties not presently known to us, which we currently deem immaterial or which are similar to those faced by other companies in our industry or business in general, may also impair our business operations.

Except for the historical information in this Annual Report, various matters contained in this Annual Report include forward-looking statements that involve risks and uncertainties. The following factors, among others, could cause actual results to differ materially from those contained in forward-looking statements made in this Annual Report and presented elsewhere by management from time to time. Such factors, among others, may have a material adverse effect upon our business, results of operations and financial condition. You should consider carefully the following risk factors, together with all of the other information included in this Annual Report. Each of these risk factors could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our common stock.

Adverse global economic conditions due to the COVID-19 pandemic have had, and are likely to continue to have, a material and adverse impact on our business and result in reduced revenues and profitability

Recently, there was an outbreak of a novel strain of coronavirus (COVID-19), which has spread rapidly to many parts of the world, including Asia, North America, Australia and Europe which has had, and is likely to continue to have, a material and adverse impact on our business, cash flows, financial condition and results of operations. In March 2020, the World Health Organization declared COVID-19 a pandemic. The epidemic has resulted in quarantines, travel restrictions, and the temporary closure of office buildings, facilities and businesses in North America, Australia, Europe and Asia.

Over 90% of our revenues are generated from North America and Europe and 10% of our revenues are generated from rest of world, including Asia. Consequently, our results of operations have been and will likely continue to be adversely affected to the extent that COVID-19 or any other epidemic adversely impacts the U.S., European or Asian based economies. Any potential impact to our results will depend on, to a large extent, future developments and new information that may emerge regarding the duration and severity of COVID-19 and the actions taken by government authorities and other entities to contain COVID-19 or treat its impact, almost all of which are beyond our control. Even though we are rapidly enabling our work force to work remotely, potential impacts of COVID-19 include, but are not limited to, the following:

- termination, reduction or deferral of IT service engagements or IT budgets, resulting in sharp reduction of revenues, reduced demand for IT services, lower utilization of our team members and lower profitability

- temporary closure of offices or travel restrictions which may restrict our ability to service our clients or obtain new client engagements

- workforce disruptions due to illness, quarantines, government actions, facility closures or other restrictions

- our inability to accurately forecast sales, revenue or pipeline during the pandemic period

- difficulty in assessing client demand and resource and staffing needs, leading to higher costs and lower utilization

- increased levels of attrition, including unwanted attrition

- delays or failure of our clients to pay us, which could significantly increase the amount of our accounts receivable and require us to record additional allowances for doubtful accounts or use needed cash reserves as our days sales outstanding increases.

- volatility in our stock price, where the global stock markets have experienced, and may continue to experience, significant decline from the COVID-19 outbreak, which could materially adversely affect our stock price.

Because of the uncertainty surrounding the COVID-19 outbreak, the financial impact to Virtusa cannot be reasonably estimated at this time, however, we expect that our results for the first quarter of and full fiscal year ending March 31, 2021 will be adversely affected. We expect our total revenues in the first fiscal quarter ending March 31, 2021 to decrease year over year, and there is no guarantee that our total revenues will grow or remain at similar levels year over year in the next three quarters ending March 31, 2021. While it is not possible at this time to estimate the full impact that COVID-19 could have on our business, the continued spread of COVID-19 and the measures taken by the governments of countries affected could further disrupt and materially and adversely impact our business, financial condition or results of operations. The COVID-19 outbreak and mitigation measures may also have an adverse impact on global economic conditions which could have an adverse effect on our business and financial condition. The extent to which the COVID-19 outbreak impacts our results will depend on future developments that are highly uncertain and cannot be predicted, including new information that may emerge concerning the severity of the virus and the actions to contain its impact.

Our ability to provide services or our client's ability to receive services in a secure manner, particularly from our large offshore centers in India and Sri Lanka from which over 70% of our services are performed, are at risk or could be materially and negatively impacted by public health issues such as the outbreak of the COVID-19 pandemic or by natural disasters such as earthquakes, tsunamis or flooding or regional conflicts, terrorist attacks or armed conflict.

Public health issues, such as the outbreak of COVID-19, natural disasters, including climate change induced disasters, or armed conflict or terrorist attacks, whether in the United States or in other countries, could cause damage or disruption to our business or our clients, or could create political or economic instability, any of which could harm our business. For instance, due to the COVID-19 pandemic, governments in India and Sri Lanka have mandated certain businesses remain closed and restricted travel which has impacted our ability to serve our clients, despite our efforts to continue to serve our clients, including triggering our business continuity plans and rapidly working to augment our work from home capabilities. Even if we are able to work remotely, not all of our clients may permit working remotely due to security or other reasons, which could negatively impact our revenues and our utilization. Our Indian and Sri Lankan facilities are also located in regions that are susceptible to tsunamis and flooding. Flooding and other natural disasters related to climate change may increase the risk of disruption of information systems and telephone services for sustained periods, particularly in coastal regions like Chennai, India or Colombo, Sri Lanka where we have large delivery centers. For instance, over the last five years, our operations and centers in Chennai, India and Colombo, Sri Lanka have been repeatedly affected by heavy rains and severe flooding even when we trigger our business continuity plans to try to mitigate the impact to our clients, employees and our business. Government shutdowns caused by a pandemic, or damage or destruction that interrupts our ability to deliver our services could lead to a substantial loss of revenue, damage our relationships with our clients or in the case of physical damage, may cause us to incur substantial additional expenses to repair or replace damaged equipment or facilities. Further, our insurance coverage may not be sufficient to cover all such expenses. We also may be unable to secure such insurance coverage or to secure such insurance coverage at premiums acceptable to us in the future. Prolonged disruption of our services as a result of pandemics or natural disasters may also cause our clients to terminate their contracts with us and may result in project delays, project cancellations and/or loss of substantial revenue to us. Prolonged disruptions may also harm our team members or cause them to relocate, which could have a material adverse effect on our business.

Regional conflicts or terrorist attacks and other acts of violence or war in the United States, the United Kingdom, India, Sri Lanka, or other regions could adversely affect financial markets, resulting in loss of client confidence and our ability to serve our clients which, in turn, could adversely affect our business, results of operations and financial condition. Similar to the impact caused by pandemics or natural disasters, civil or political unrest and military hostilities or other acts of violence or war, including those involving India, Sri Lanka, the United States, the United Kingdom or other countries, may also adversely affect U.S., U.K. and worldwide financial markets. Terrorist threats, attacks and international conflicts could make travel more difficult and cause potential clients to delay, postpone or cancel decisions to use our services. Similar to the impact caused by pandemics or natural disasters, such attacks may also have an adverse impact on our ability to operate effectively and interrupt lines of communication and restrict our offshore resources from traveling onsite to client locations, effectively curtailing our ability to deliver our services to our clients. These obstacles may result in loss of revenue, an increase in our expenses, and a negative effect on our operating results.

If our business continuity and disaster recovery plans are not effective, particularly during the COVID-19 pandemic, and our global delivery capability is impacted, our business and results of operations may be materially adversely affected and we may suffer harm to our reputation.

Our business model is dependent on our global delivery capability, which includes coordination between our main operating offices in India, our other global and regional delivery centers, the offices of our clients and our associates worldwide. System failures, outages and operational disruptions may be caused by factors outside of our control such as hostilities, political unrest, terrorist attacks, natural disasters, pandemics and public health emergencies, such as the coronavirus, affecting the geographies where our operations and transmission equipment is located. Our business continuity and disaster recovery plans may not be effective at preventing or mitigating the effects of such disruptions, particularly in the case of a catastrophic event. Any such disruption may result in lost revenues, a loss of clients and reputational damage, which would have an adverse effect on our business, results of operations and financial condition.

Our revenue is highly dependent on a small number of clients, and the loss of, or material reduction in, revenue from any one of our major clients could significantly harm our results of operations and financial condition.

We have historically earned, and believe that over the next few fiscal years we will continue to earn, a significant portion of our revenue from a limited number of clients. For our fiscal years ended March 31, 2020 and 2019, our top five clients accounted for approximately 41% and 42% of our total revenue, respectively. For the fiscal year ended March 31, 2020, Citi accounted for 16% of our total revenue. The loss of, or material reduction in, revenue from any one of our major clients for any reason, including from the impact of COVID-19, could materially reduce our total revenue, harm our reputation in the industry and/or reduce our ability to accurately predict our revenue, net income and cash flow. The loss of, or material reduction in revenue from any one of our major clients could also adversely affect our gross profit and utilization as we seek to redeploy resources previously dedicated to that client. Generally, our clients retain us on a non-exclusive, engagement-by-engagement basis, rather than under exclusive long-term contracts and may typically terminate or reduce our engagements without termination-related penalties. Accordingly, we cannot assure you that revenue from our major clients will not be significantly reduced in the future, including from factors unrelated to our performance or work product such as impacts from the COVID-19 pandemic and national and global shutdowns, the consolidation by or among our clients, or the acquisition of a client, decrease to a client’s spending budget, or cost savings initiatives of our clients which may result in immediate lower external spend by our clients. Further, the loss of, or material reduction in, revenue from any one of our major clients has required us, and could in the future require us, to increase involuntary attrition. This could have a material adverse effect on our attrition rate and make it more difficult for us to attract and retain IT professionals in the future.

We may not be able to maintain our client relationships with our major clients on existing or on continued favorable terms and our clients may not renew their agreements with us, in which case our business, financial condition and results of operations would be adversely affected. Our client concentration may also subject us to perceived or actual leverage that our clients may have, given their relative size and importance to us. If our clients seek to negotiate their agreements on terms less favorable to us and we accept such unfavorable terms, such unfavorable terms may have a material adverse effect on our business, financial condition and results of operations. Accordingly, unless and until we diversify and expand our client base, our future success will significantly depend upon the timing and volume of business from our largest clients and the financial and operational success of these clients. If we were to lose one of our major clients or have a major client cancel substantial projects or otherwise significantly reduce its volume of business with us, our revenue and profitability would be materially reduced and our business and operating results would be seriously harmed.

We depend on clients concentrated in specific industries, such as BFSI; we are therefore subject to enhanced risks relating to developments affecting these clients and industries, such as the COVID-19 pandemic, that may cause them to reduce or postpone their IT spending.

In our fiscal year ended March 31, 2020, we derived substantially all of our revenue from clients in three industries: BFSI, C&T, and M&I. During our fiscal year ended March 31, 2020, we earned approximately 58% of our revenue from clients in the BFSI industries and our revenue from this industry decreased by approximately 4% from the prior fiscal year. If any decline in the growth of the BFSI industries or large clients in such industries, particularly in the BFS or insurance industry, occurs, or if there is a significant consolidation in these industries or a decrease in growth or consolidation in other industry verticals on which we focus, such events could materially reduce the demand for our services and negatively affect our revenue and profitability. If economic conditions weaken or slow due to the COVID-19 pandemic or otherwise, particularly in the industries in which we focus, our clients may significantly reduce or postpone their IT spending. Reductions in IT budgets, increased consolidation, or increased competition in these industries could result in an erosion of our client base and a reduction in our target market. Any reductions in the IT spending of companies in any one of these industries may reduce the demand for our services and negatively affect our revenue and profitability.

Our business, results of operations and financial condition may be adversely affected by our incurrence of indebtedness or obligations incurred in connection with the issuance of convertible preferred stock and there can be no assurance that we will be able to service our indebtedness, comply with bank covenants or satisfy our dividend obligations to holders of our series A convertible preferred stock.

On May 3, 2017, we issued to the Orogen Group, an independent private company focused on supporting growth-oriented businesses, 3,000,000 shares of convertible preferred stock, which requires a 3.875% dividend per annum, payable quarterly in additional shares of common stock and/or cash at our option, for an aggregate purchase price of $108.0 million with a maturity/redemption date of May 3, 2024 and an initial conversion price of $36.00. There is no guarantee that we will always be able make cash payments on our preferred stock, our stockholders will not suffer increased dilution due to terms of our outstanding convertible preferred stock.

We have also incurred substantial indebtedness under a senior secured debt facility to provide working capital, as well as for opportunistic and strategic investments, including the Polaris Transaction and related transactions and the eTouch acquisition. On October 15, 2019, we entered into an amendment (the “Second Credit Agreement Amendment”) to increase the revolving loan commitments available to us under our existing $450.0 million credit facility with a syndicated bank group. Under the Second Credit Agreement Amendment, we increased the revolving loan commitments from $200.0 million to $275.0 million. We are obligated to pay certain interest and amortization payments under the credit facility. The term of the credit agreement is five years, ending February 6, 2023. As of March 31, 2020, the outstanding amount under the credit agreement was $500.0 million. There is no guarantee that we will be able to service the interest and principal payments on our debt or make cash payments on our preferred stock or that our business, results of operations or financial condition will not be adversely affected by our incurrence of indebtedness or our stockholders will not suffer increased dilution due to terms of our outstanding convertible preferred stock.

We may need to obtain additional financing or incur additional indebtedness in the future, which may not be available to us, or if available, the terms may not be commercially favorable. Further, if we want to pay required dividends in cash on our outstanding convertible preferred stock, we will be required to have sufficient cash available in the United States to pay scheduled installments, accrued interest and fees from time to time and at maturity on our term loan or for dividends on our preferred stock payments if we want to pay in cash and not pay our dividends in common stock, which will increase the dilutive impact of the financing. If we do not have sufficient cash available in the United States or we fail to generate sufficient cash from operations in the United States, we may be unable to service the debt or pay dividends in cash on our convertible preferred stock or we may be required to repatriate earnings held by our foreign subsidiaries. Any such repatriation may also be subject to unfavorable taxation or withholdings, which could have a material adverse effect on our results of operations. In addition, we may not have sufficient cash in the United States or abroad to make payments on our debt obligations or dividends in cash on our convertible preferred stock, which could cause us to seek additional debt or equity capital or restructure or refinance our existing indebtedness. We may not be able to affect any such alternative measures, if necessary, on commercially reasonable terms or at all and, even if successful, those alternative actions may not allow us to meet our scheduled debt service obligations or dividend payments on our convertible preferred stock in cash or that we can avoid increased dilution to our stockholders under the terms of our convertible preferred stock.

In addition, the credit agreement contains certain financial and other covenants, including maximum debt to EBITDA and minimum fixed charge coverage covenants. Failure to comply with these covenants or other provisions of the credit agreement could result in a default under the credit agreement, requiring us to either cure such default, receive a waiver, or in the absence of such cure or waiver, refinance any outstanding indebtedness under the credit agreement. There is no assurance that we would be able to refinance our debt on acceptable terms and conditions. Moreover, if we are unable to force conversion of the preferred stock to common stock or there is not a conversion event of the preferred stock to common stock prior to May 3, 2024, under the terms of our convertible preferred stock, we are required to redeem the shares of preferred stock. There is no assurance that we would be able to redeem the preferred stock or obtain financing on acceptable terms and conditions, if at all.

We may need to raise capital in the future, although our ability to raise capital may be limited or not available on acceptable terms.

If our cash flows from operations and funds available under our remaining revolving credit facility are not sufficient to fund our strategic investments or operations, we may seek to raise additional funds through the issuance of equity or convertible debt securities, if available at all, whereby the percentage ownership of our stockholders could be significantly diluted and these newly issued securities may have rights, preferences or privileges senior to those of existing stockholders. If we seek to obtain additional debt financing, there is no assurance that existing lenders will permit additional indebtedness, and even if permitted, a substantial portion of our operating cash flow may be dedicated to the payment of principal and interest on such indebtedness, thus limiting funds available for our business activities and increasing our costs of operations, which could have a material adverse impact on our operating margins. Any such debt financing could require us to comply with restrictive financial and operating covenants, which could have a material adverse impact on our business, results of operations or financial condition and there is no guarantee or assurance that any such credit facility will be available or if so, on reasonable terms.

We cannot assure you that additional financing will be available on terms favorable to us, or at all or in the locations where we need the additional capital. If adequate funds are not available or are not available on acceptable terms, when we desire them, our ability to fund our operations and growth, take advantage of unanticipated opportunities or otherwise respond to competitive pressures may be significantly limited.

Our substantial level of debt and related obligations, including interest payments, covenants and restrictions, as well as our dividend obligations to the holders of series A convertible preferred stock, including a redemption requirement by May 23, 2024, if the securities have not been converted to common stock by such date, could have important consequences, including:

- impairing our ability to invest in and successfully grow our business and/or make acquisitions

- making it more difficult for us to satisfy our obligations with respect to our indebtedness, which could result in an event of default

- limiting our ability to obtain additional financing on satisfactory terms to fund our working capital requirements, capital expenditures, acquisitions, debt obligations and other general corporate requirements

- hindering our ability to raise equity capital

- increasing our vulnerability to general economic downturns, competition and industry conditions, which could place us at a competitive disadvantage compared to competitors that are less leveraged and therefore we may be unable to take advantage of opportunities that our leverage prevents us from exploiting

- imposing additional restrictions on the manner in which we conduct our business, including restrictions on our ability to pay dividends, incur additional debt and sell assets

- placing us at a possible disadvantage relative to less leveraged competitors and competitors that have better access to capital resources

The occurrence of any one of these events could have an adverse effect on our business, financial condition, operating results or cash flows and ability to satisfy our obligations to lenders or our preferred stockholders. Insufficient funds may require us to delay, scale back or eliminate some or all of our activities.

We could be subject to strict restrictions on the movement of cash and the exchange of foreign currencies which could limit our access to cash in non-U.S. locations to fund our U.S. operations or otherwise make investments where needed.

In some countries, we could be subject to strict restrictions on the movement of cash and the exchange of foreign currencies, which would limit our ability to use this cash across our global operations. This risk could increase as we continue our geographic expansion in emerging markets, which are more likely to impose these restrictions than more established markets. We therefore may not have ready access to cash in geographies where we need to make investments. For instance, at March 31, 2020, we had approximately $300.6 million of cash, cash equivalents, short term investments and long-term investments of which we hold approximately $194.8 million of cash, cash equivalents, short term investments and long-term investments in non-U.S. locations, particularly in India, Sri Lanka, Singapore and the United Kingdom. Cash in these non-U.S. locations may not otherwise be available for servicing debt obligations, paying dividends, potential investment or use for operations in the United States or other geographies where needed, as we have stated that this cash is indefinitely reinvested in these non-U.S. locations. Moreover, even if we were to repatriate this cash back to the United States for use in U.S. investments, this cash could be subject to additional withholding taxes. Due to various methods by which cash could be repatriated to the United States in the future, the amount of taxes attributable to the cash is dependent on circumstances existing if and when remittance occurs. Due to the various methods by which such earnings could be repatriated in the future, it is not practicable to determine the amount of applicable taxes that would result from such repatriation. In addition, some countries could have tight restrictions on the movement and exchange of foreign currencies which could further limit our ability to use such funds for repayment of debt, payment of dividends, global operations or capital or other strategic investments. Our inability to access our cash where and when needed could impede our ability to service our debt obligations, pay dividends, make investments and support our operations.

Acquisitions may be difficult to integrate, and could divert the attention of key management personnel, materially disrupt our business, dilute stockholder value and materially adversely affect our financial results, including impairment of goodwill and other intangible assets, if we are unable to realize the expected revenue and synergy growth or efficiencies from these acquisitions.

For our recent acquisitions, as well as any future acquisitions, we may incur substantial risks, including:

- diversion of financial resources from existing operations, including the need for funding sources and cash to pay purchase price or future contingent earn-out obligations

- inability to generate sufficient revenue or revenue synergies growth to offset transaction costs or to maintain previous forecasts regarding revenue growth, profit margins and earnings per share forecasts

- underperformance of the acquired company as compared to our forecasts, resulting in lower utilization, lower gross margins and operating margins, higher operating costs and lower profits from our previous forecasts

- difficulties in integrating operations, technologies, accounting and personnel

- difficulties in supporting and transitioning clients of our acquired companies or strategic partners
- potential loss of key team members
- assumption of responsibilities and obligations of the acquired business pursuant to the terms and conditions of services agreements that are not consistent with the terms and conditions that we typically accept and require
- unknown liabilities or liabilities for which indemnification may or may not apply and difficulties of recovering any indemnifiable losses

Our global nature of operations could also make it difficult for us to efficiently integrate acquired businesses or technologies into our ongoing operations and assimilate employees of those businesses into our culture and operations. Accordingly, we might fail to realize the expected benefits or strategic objectives of any acquisition we undertake. Acquisitions also frequently result in the recording of goodwill and other intangible assets that are subject to potential impairments in the future that could harm our financial results. If we fail to successfully integrate acquired companies or any company or assets that we acquire fails to maintain their value, or if any existing or future acquired companies or assets materially fail to perform in a manner consistent with our valuations or forecasts, we may suffer an impairment of our assets, resulting in an immediate charge to our consolidated statement of income. Any such failure to integrate an acquired company, or any impairment of intangible assets or goodwill of any such acquired company or assets could have a material adverse impact on our consolidated balance sheet and consolidated statements of income.

Restrictions on immigration may affect our ability to compete for and provide services to clients in the United States, Europe (particularly, the United Kingdom), or other countries, which could result in lost revenue, lower gross margins, delays in or losses of client engagements and otherwise adversely affect our ability to meet our growth, revenue and profit projections.

The vast majority of our team members are Indian and Sri Lankan nationals. The ability of our IT professionals to work in the United States, the United Kingdom and other countries depends on our ability to obtain the necessary visas and entry permits, including the H-1(B) visa in the United States. The U.S. government conducts a random lottery to determine which H-1(B) applications will be adjudicated that year. Increasing demand for H-1(B) visas, or changes in how the annual limit is administered, could limit our ability to access those visas. In recent years, the United States has increased the level of scrutiny in granting H-1(B), L-1 and other business visas. The H-1(B) visa classification enables U.S. employers to hire qualified foreign workers in positions that require an education at least equal to a four-year bachelor's degree in the United States in specialty occupations such as IT systems engineering and systems analysis. The H-1(B) visa usually permits an individual to work and live in the United States for a period of up to six years. Under certain circumstances, H-1(B) visa extensions beyond the six-year period may be available. H-1(B) visa holders are required to be paid the higher of the actual wage or the prevailing wage for their position at the site of their employment.

In addition, there are strict labor regulations associated with the H-1(B) visa classification, including disclosure, attestations and document retention. Employers who are H-1(B) dependent (i.e. those with fifteen percent (15%) or more of their workforce on H-1(B) visas) are potentially subject to additional disclosures, attestations and subject to specific affirmative recruitment requirements if the employees they sponsor for H-1(B) visa do not qualify as "exempt" employees. An exempt employee is one who is either (a) paid an annual salary of at least $60,000 or (b) one who holds a masters or higher degree in a specialty occupation or field of study related to their employment. In September 2014, we became an "H-1(B) Dependent Employer." To avoid being subject to additional attestations, disclosures, and affirmative recruitment requirements, we do not sponsor employees for H-1(B) visas who make less than $60,000 per year. As an "H-1(B) Dependent Employer" our petitions are subject to greater scrutiny at the time of adjudication. All users of the H-1(B) program are subject to periodic site visits from the United States Citizenship and Immigration Services, or USCIS, to verify their compliance with immigration and Labor Regulations. In addition, the Wage and Hour Division of the United States Department of Labor may also conduct H-1(B) audits to verify compliance with labor regulations. A finding by the United States Department of Labor of willful or substantial failure by us to comply with existing regulations on the H-1(B) classification may result in back-pay liability, substantial fines, and/or a ban on future use of the H-1(B) program and other immigration benefits. We are users of the H-1(B) visa classification with respect to some of our key offshore workers who have relocated onsite to perform services for our clients. As a result of our H-1(B) Dependent Employer status, we are likely subjected to more site visits and a higher level of scrutiny by USCIS and the U.S. Department of Labor than Non-Dependent Employers, each of which can negatively impact or delay our ability to staff onsite projects with offshore resources.

From time to time, we are also subject to audit from immigration authorities across our global centers to ensure we are in compliance with applicable immigration law. For instance, in August 2019, one of our U.K. subsidiaries, Virtusa UK Limited, was subject to audit and was notified that the audit was unsatisfactory and, as such, UK Visas and Immigration suspended the sponsor license which allows our U.K. subsidiary to sponsor the Tier 2 visas of non- European Economic Area skilled workers visas and work permits for workers located in non-UK locations such as India and Sri Lanka. The suspension was in effect until such time as we could adequately respond to the questions raised in the audit and requests for additional documentation. In September 2019, we successfully responded to the U.K. Visas and Immigration audit such that U.K. Visas and Immigration reinstated and restored our sponsor license with immediate effect, allowing Virtusa U.K. Limited again to sponsor visas and work permits. Although our sponsorship license was restored, we can give no assurance that our U.K. subsidiaries or any of our other global subsidiaries will not be subject to future audits or that such future audits will not result in future sponsorship license suspensions or that our ability to sponsor visas will not be restricted. If our ability to sponsor visas is suspended or terminated in any country in which we do business, our key project personnel may not be able to obtain necessary visas or work permits which could delay or prevent our fulfillment of certain client projects, which could hamper our growth and cause our revenue to decline. Any delays in staffing or inability to obtain proper resources for a project can result in project postponement, delays or cancellation, which could result in lost revenue and decreased profitability and have a material adverse effect on our business, revenue, profitability and utilization rates.

We also regularly transfer employees from our global subsidiaries, primarily those from India and Sri Lanka, to the United States to work on projects and at client sites using the L-1 visa classification. The L-1 visa allows companies abroad to transfer certain managers, executives and employees with specialized company knowledge to related United States companies such as a parent, subsidiary, affiliate, joint venture, or branch office. We have an approved “Blanket L Program,” under which the corporate relationships of our transferring and receiving entities have been pre-approved by the USCIS, thus enabling individual L-1 visa applications to be presented directly to a visa-issuing United States consular post abroad rather than undergoing the individual petition pre-approval process through USCIS in the United States. In recent years, both the United States consular posts that review initial L-1 applications and USCIS, which adjudicates individual petitions for initial grants and extensions of L-1 status, have become increasingly restrictive with respect to their interpretation of the regulations governing this category and all applications are subject to increased scrutiny. As a result, the rate of refusals of both individual and blanket L-1 petitions and of extensions has materially increased. In addition, even where L-1 visas are ultimately granted and issued, security measures undertaken by United States consular posts around the world have substantially delayed visa issuances as they are allowed the right to further scrutinize the visa and request additional supporting documentation. Any inability to bring, or delays in bringing, qualified technical personnel into the United States to staff on-site customer locations would have a material adverse effect on our client engagements, our business, results of operations and financial condition. Since 2010 U.S. immigration law has imposed enhanced filing fees on employers who are significantly dependent upon H-1(B) and L-1 visa holders. An employer whose overall count of full-time employee equivalents consists of 50% or more of individuals holding H-1(B) or L-1 visas are subject to an enhanced filing fee. That enhanced fee is $4,000 and $4,500 for each new H-1B or L-1 petition filed, respectively. We have been required to pay these enhanced fees, as the percentage of our overall U.S. based workforce holding H-1(B) and L-1 visa status remains above the 50% mark. While we closely monitor the visa makeup of our workforce in an attempt to minimize our exposure to such enhanced fees and make efforts to recoup these costs either directly from our clients or indirectly through our billing rates, these enhanced fees have had a negative impact on our gross profit and overall cost of operations and may continue to do so. Further growth and increased demand for our services will likely make it increasingly difficult for us to avoid the payment of these fees, thus impacting our gross margins and overall profitability.

We also process immigrant visas for lawful permanent residence (green cards) in the United States for employees to fill positions for which there is an insufficient number of able, willing, and qualified United States workers available to fill the positions. Compliance with existing United States immigration and labor laws, or changes in those laws making it more difficult to hire foreign nationals or limiting our ability to successfully obtain permanent residence for our foreign employees in the United States, could require us to incur additional unexpected labor costs and expenses or could restrain our ability to retain the skilled professionals we need for our operations in the United States. Any of these restrictions or limitations on our hiring practices could have a material adverse effect on our business, results of operations and financial condition.

To the extent we experience delays due to immigration restrictions or inability to have visas granted to offshore personnel whether due to the COVID-19 pandemic (as a result of global travel restrictions or discontinued consular services at certain posts or otherwise), increased levels of scrutiny or otherwise, we may encounter client dissatisfaction, project and staffing delays in new and existing engagements, project cancellations, project losses, higher project costs and loss of revenue, resulting in decreases in profits and a material adverse effect on our business, results of operations, financial condition and cash flows.

Potential changes in U.S. immigration law, if approved into law, may increase our cost of revenue and may substantially restrict or eliminate our ability to obtain visas to use offshore resources onsite, which could have a material adverse impact on our business, revenue, profitability and utilization rates.

The issue of companies outsourcing services to organizations operating in other countries is a topic of political discussion in many countries, including the United States, which is our largest market. The U.S. Congress regularly considers proposals that could make extensive changes to U.S. immigration laws regarding the admission of high-skilled temporary and permanent workers. Further, the current U.S. administration or Congress may seek to limit the admission of high-skilled temporary and permanent workers and has issued and may continue to issue executive orders designed to limit immigration. For instance, On April 22, 2020 the Administration suspended the issuance of most immigrant visas for a sixty-day period. On May 7, 2020 four US Senators, noting the increase in US unemployment rate, urged the President to expand that order to restrict the admission of nonimmigrant (including H-1B) workers and limit the issuance of employment authorization to various categories of non-immigrants currently in the US, including certain F-1 students and H dependents. They also urged the President to extend that order for either one year, or until national unemployment rates return to normal levels. Any such proposal, if enacted, or policy change, if implemented, may increase our cost of doing business in the United States and may discourage customers from seeking our services. Our international expansion strategy and our business, results of operations and financial condition may be materially adversely affected if changes in immigration and work permit laws and regulations or the administration or enforcement of such laws or regulations impair our ability to staff projects with professionals who are not citizens of the country where the work is to be performed.

The potential risks and impact to our business if changes are made to immigration laws relating to use of H-1(B) and L-1 visas are approved could include:

- Reduced ability to bring in foreign workers on an L-1 or H-1(B) visa
- Increased scrutiny and requests for proof of eligibility on the use of L-1 and H-1(B) visas
- Higher costs, including wages and benefits, for H-1(B) and L-1 visa holders
- Elimination of our ability to pay the living expenses of an L-1 visa holder on a tax-free basis
- Increased oversight by the Department of Labor (“DOL”) over issuance, use and administration of L-1 visas, as the DOL currently only oversees H-1(B) visas

Even if we are able to apply for, or obtain, such visas, we could incur substantial delays and costs in processing any such requests and our costs of operations could materially rise, thus materially and negatively impacting our gross margins and our statement of income. Any inability to obtain, or extended delays in obtaining, these visas, or any delays or inability to hire resources for existing or future client projects could materially delay or prevent our commencement or fulfillment of client projects, which could hamper our growth and cause our revenue to decline.

In the EU, many countries continue to implement new regulations to move into compliance with the EU Directive of 2014 to harmonize immigration rules for intracompany transferees in most EU member states and to facilitate the transfer of managers, specialists and graduate trainees both into and within the region. The changes have had significant impacts on mobility programs and have led to new notification and documentation requirements for companies sending professionals to EU countries.

Recent changes or any additional adverse revisions to immigration laws and regulations in the jurisdictions in which we operate may cause us delays, staffing shortages, additional costs or an inability to bid for or fulfill projects for clients, any of which could have a material adverse effect on our business, results of operations and financial condition.

Any such delays or inability to staff needed resources on client engagements may cause client dissatisfaction, project and staffing delays in new and existing engagements, project cancellations, higher project costs and loss of revenue, resulting in decreases in profits and a material adverse effect on our business, results of operations, financial condition and cash flows.

The international nature of our business exposes us to many complex risks, which may be beyond our control.

We have operations in the United States, the United Kingdom, the Netherlands, India, Sri Lanka, Germany, Singapore, Austria, Hungary, Malaysia, Switzerland and Sweden and we serve clients across North America, Europe and Asia, and with the Polaris Transaction, added operations in Hong Kong, United Arab Emirates, New Zealand, Japan, Qatar, Mexico, Australia and Canada. For the fiscal years ended March 31, 2020, 2019 and 2018, revenue generated outside of the United States accounted for 26%, 29% and 35% of total revenue, respectively. Our corporate structure also spans multiple jurisdictions, with Virtusa Corporation incorporated in Delaware and its operating subsidiaries organized in India, Sri Lanka, the United Kingdom, Hungary, Germany, Singapore, Austria, Malaysia, Sweden, Switzerland, Mexico and the Netherlands, as well as Polaris and its operating subsidiaries which are incorporated in Australia, the United Arab Emirates, Qatar, Japan and Canada. As a result, our international revenue and operations are exposed to risks typically associated with conducting business internationally, many of which are beyond our control. These risks include:

- the impact from the COVID-19 pandemic on our clients and their demand for IT services, our ability to provide uninterrupted IT services to our clients, and impact on the global economy generally

- changes in or interpretation of employment laws and regulations, including, without limitation, regulations requiring the withholding and contribution towards government sponsored employee benefit plans, including the provident fund and gratuity fund in India and Sri Lanka, with the amount of such contributions being determined by complex calculations which are subject to change and interpretation by the local governmental authorities; any changes or new interpretations to these regulations requiring us to increase our financial contributions to these plans (prospectively or retrospectively) may have a material adverse impact on our gross margins and operating margins

- uncertainty related to the potential economic, immigration, trade, financial and regulatory impacts of the United Kingdom's exit from the European Union, particularly on our BFSI clients, as a result of the withdrawal of the United Kingdom from the European Union, effective on January 31, 2020, commonly referred to as Brexit

- negative currency fluctuations between the U.S. dollar and the currencies in which we conduct transactions, including most significantly, the U.K. pound sterling, the euro, the Indian rupee, the Swedish Krona, the Singapore dollar, the Canadian dollar and the Australian dollar (each in which our foreign revenues are principally denominated) and the Indian and Sri Lankan rupees (in which our foreign costs are primarily denominated)

- adverse income tax consequences resulting from foreign income tax examination, such as challenges to our transfer pricing arrangements and challenges to our ability to claim tax holiday benefits in the countries in which we operate

- changes in tax laws or in their interpretation, enforcement or changes in economic policies
- difficulties in staffing, managing and supporting operations in multiple countries
- potential fluctuation or decline in foreign economies
- unexpected changes in regulatory requirements, including immigration restrictions, potential tariffs and other trade barriers
- legal uncertainty owing to the overlap of different legal regimes and problems in asserting contractual or other rights across international borders, including compliance with local laws of which we may be unaware
- government currency control and restrictions on repatriation of earnings
- the burden and expense of complying with the laws and regulations of various jurisdictions
- domestic and international economic or political changes, hostilities, terrorist attacks and other acts of violence or war

Negative developments in any of these areas in one or more countries could result in a reduction in revenue or demand for our services, the cancellation or delay of client contracts, business interruption, threats to our intellectual property, difficulty in collecting receivables and a higher cost of doing business, including higher taxes, any of which could negatively affect our business, financial condition or results of operations.

Our quarterly financial position, revenue, operating results and profitability are challenging to predict and may vary from quarter to quarter, which could cause our share price to decline significantly.

Our quarterly revenue, operating results and profitability have varied in the past and are likely to vary significantly from quarter to quarter in the future. The factors that are likely to cause these variations include:

- unanticipated force majeure, global disaster or pandemic events, such COVID-19, which has spread rapidly to many parts of the world, resulting in quarantines, travel restrictions, and the temporary closure or severe restrictions of our clients' businesses and our facilities in the United States, Europe, India, Sri Lanka and other locations where we do business
- deterioration and decline in general economic, industry and/or market conditions stemming from the COVID-19 pandemic and governmental restrictions to address the pandemic and global health crisis
- unanticipated contract or project terminations, or reductions in scope or size of IT engagements
- the continuing financial stability and growth prospects of our clients
- our ability under generally accepted accounting principles in the United States ("GAAP") to recognize the revenue associated with the services performed in the applicable fiscal period due to many factors, including having enforceable rights and obligations with our clients for such periods or our ability to produce the deliverables or meet the project milestones in accordance with agreed upon specifications or timelines in the applicable fiscal period and achieve revenue recognition under GAAP
- the number, timing, scope and contractual terms of IT projects in which we are engaged
- delays in project commencement or staffing delays due to immigration issues or our inability to assign appropriately skilled or experienced personnel

- our ability to obtain visas or applicable work permits for offshore personnel to commence projects at a client site for new or existing engagements
- our ability to forecast demand for our services and thereby maintain an appropriate number of team members
- the accuracy of estimates of resources, effort, time and fees required to complete fixed-price projects and costs, effort and time incurred in the performance of each project
- changes in pricing in response to client demand and competitive pressures
- our inability to manage the optimum mix of onsite and offshore staffing or required use of subcontractors
- the mix of leadership and senior technical resources to junior engineering resources staffed on each project
- unexpected changes in the utilization rate of our IT professionals
- inability to collect our receivables from, or bill our unbilled services to, our clients due to our performance or client financial difficulties or client satisfaction with our performance, resulting in deferral of revenue recognition under GAAP, delays in collection and/or negative impact on our cash flows
- the ratio of fixed-price contracts to time-and-materials contracts
- employee wage levels and increases in compensation costs, including timing of promotions and annual pay increases, particularly in India and Sri Lanka
- acquisitions, including transaction-related costs and write-downs from future impairments of identified intangible assets and goodwill, and other one-time, non-recurring projects
- regulatory developments in the United States, the United Kingdom, India, Sri Lanka or other countries in which we operate or have clients
- litigation involving our company, our general industry or both
- tax rate unpredictability
- foreign currency volatility

As a result, our revenue and our operating results for a particular period are challenging to predict and may decline in comparison to corresponding prior periods regardless of the strength of our business. Our future revenue is also challenging to predict because we derive a substantial portion of our revenue from fees for services generated from short-term contracts that may be terminated or delayed by our clients without penalty. In addition, a high percentage of our operating expenses, particularly related to salary expense, rent, depreciation expense and amortization of purchased intangible assets, are relatively fixed in advance of any particular quarter and are based, in part, on our expectations as to future revenue. If we are unable to predict the timing or amounts of future revenue accurately, we may be unable to adjust spending in a timely manner to compensate for any unexpected revenue shortfall and fail to meet our forecasts. Unexpected revenue shortfalls may also decrease our gross margins and could cause significant changes in our operating results from quarter to quarter. As a result, and in addition to the factors listed above, any of the following factors could have a significant and adverse impact on our operating results, could result in a shortfall of revenue and could result in losses to us:

- a client’s decision not to pursue a new project or proceed to succeeding stages of a current project

- the completion during a quarter of several major client projects, resulting in our having to pay underutilized team members in subsequent periods

- adverse business decisions of our clients regarding the use of our services

- our inability to transition team members quickly from completed projects to new engagements

- our inability to manage costs, including personnel, infrastructure, facility and support services costs

- exchange rate fluctuations

Due to the foregoing factors, it is possible that in some future periods our revenue and operating results may not meet the expectations of securities analysts or investors. If this occurs, the trading price of our common stock could fall substantially, either suddenly or over time, and could result in securities class action litigation. Any securities class action litigation could result in substantial costs and the diversion of management's attention and resources. Many of these factors are beyond our control. The stock market, as a whole, also has experienced extreme price and volume fluctuations that have affected the market price of the common stock of many technology companies in ways that may have been unrelated to such companies' operating performance.

We may face damage to our professional reputation and be subject to legal claims and litigation, including high and unexpected costs as a result of any litigation or client disputes, if our services do not meet our clients' expectations or violate contractual terms with our clients.

Many of our projects involve technology applications or systems that are critical to the operations of our clients' businesses and handle very large volumes of transactions. If we fail to perform our services correctly, we may be unable to deliver applications or systems to our clients with the promised functionality or within the promised time frame, or to satisfy the required service levels for support and maintenance. If a client is not satisfied with our services or products, including those of subcontractors we employ, we may not be able to invoice for our services, or if we do invoice, we may not be able to collect the fees due on such engagements and our business may suffer. Moreover, if we fail to meet our contractual obligations, our clients may terminate their contracts and we could face legal liabilities, and increased costs, including warranty or breach of contract claims against us. If we were not to prevail in the litigation, we may be required to refund all fees paid, reverse previously recognized revenues or pay damages suffered by the client which may exceed the value of the contract, despite limitation of liability provisions in the contract. If any adverse litigation or arbitration award were granted against us, we may not have reserved sufficiently (or at all, depending on the probability of outcome) for these losses and, as such, these losses could result in reversal of revenues or increased and unexpected financial losses which could have a material and negative impact on our statement of operations and cash position in the financial quarter and fiscal year in which the award was granted. Any failure in a client's project could also result in a claim for substantial damages, our inability to recognize all or some of the revenue for the client project, potential reversals of revenue previously recognized, non-payment of outstanding invoices, increased expenses due to increase in reserves for doubtful accounts, loss of future business with such client, increased costs due to non-billable time of our resources dedicated to address any performance or client satisfaction issues, or litigation costs and expenses, regardless of our responsibility for such failure.

For instance, one of our larger clients made a demand for damages related to a project in which we were performing services. The client alleges breaches of certain representations and warranties regarding our performance and is seeking indemnification for damages from those alleged breaches. No litigation has been filed. However, we cannot provide any assurance that we will prevail in the dispute or even partially prevail. Further, if we are unsuccessful in any settlement discussions, we also cannot provide any assurance that the client will not use set off rights in our contract, even if we dispute the claims or amount of damages alleged. In the event we do not fully prevail in this dispute, or we agree on a settlement for such claims, we may have to pay damages in amounts for which we may not have reserved or which may or may not be covered by our insurance policies; further, even if the damages are covered, depending on the outcome, our insurance may not cover or be adequate to pay the entire claim. In addition, we cannot guarantee that we will not lose future business with such client as a result of such dispute.

The IT services market is highly competitive and our competitors may have advantages that may allow them to compete more effectively to secure client contracts and attract skilled IT professionals.

The IT services market in which we operate includes a large number of participants and is highly competitive. Our primary competitors include offshore IT outsourcing firms and consulting and systems integration firms. We also occasionally compete with in-house IT departments, smaller vertically focused IT service providers and local IT service providers based in the geographic areas where we compete. We expect additional competition from offshore IT outsourcing firms in emerging locations such as Eastern Europe and Latin America, as well as offshore IT service providers with facilities in less expensive geographies within India.

The IT services industry in which we compete is experiencing rapid changes in its competitive landscape. Some of the large consulting firms and offshore IT service providers with which we compete have significant resources and financial capabilities combined with a greater number of IT professionals. Many of our competitors are significantly larger and some have gained access to public and private capital or have merged or consolidated with better capitalized partners. These events have created and may in the future create, larger and better capitalized competitors. Our competitors may have superior abilities to compete for market share and compete against us for business with our existing and prospective clients. Our competitors may also have larger engagements with our existing or prospective clients which, due to our size and scale, may provide our competitors with significant advantages in any competitive bidding process. Our competitors may also be better able to use significant economic incentives, such as lower billing rates or non-billable resources, to secure contracts with our existing and prospective clients or gain a competitive advantage by being able to staff engagements that we are unable to staff, due to our shortage of resources, our lack of special skill sets or immigration delays. Our competitors may also be better able to compete for and retain skilled professionals by offering them more attractive compensation or other incentives. These factors may allow our competitors to have advantages over us to meet client demands in an engagement requiring large numbers and varied types of resources with specific experience or skill-sets that we may not have readily available in the short-term or the long-term. We cannot assure you that we can maintain or enhance our competitive position against current and future competitors. Our failure to compete effectively could have a material adverse effect on our business, financial condition or results of operations.

If we cannot attract and retain highly-skilled IT professionals, our ability to obtain, manage and staff new projects and expand existing projects may result in loss of revenue and an inability to expand our business.

Our business is labor intensive and our ability to execute and expand existing projects and obtain new clients depends largely on our ability to hire, train and retain highly-skilled IT professionals, particularly project managers, IT engineers and other senior technical personnel. The improvement in demand for global IT services has further increased the need for employees with specialized skills or significant experience in IT services, particularly at senior levels and those with special skills. Further, there is intense worldwide competition for IT professionals with the skills necessary to perform the services we offer. If we cannot hire and retain such additional qualified personnel, our ability to acquire, manage and staff new projects and to expand, manage and staff existing projects, may be materially impaired. We may then lose revenue and our ability to expand our business may be harmed. For example, in our fiscal year ended March 31, 2020, our voluntary attrition rate was 16.2%. We, and the industry in which we operate, generally experience high employee attrition and we cannot assure you that we will be able to hire or retain the number and quality of technical personnel necessary to satisfy our current and future client needs. We also may not be able to hire and retain enough skilled and experienced IT professionals to replace those who leave. Additionally, if we have to replace personnel who have left our company, we will incur increased costs not only in hiring replacements but also in training such replacements until they can become productive and billable to our clients. In addition, we may not be able to redeploy and retrain our IT professionals in anticipation of continuing changes in technology, evolving standards and changing client preferences. Our inability to attract and retain IT professionals, or delays or inability to staff needed resources on client engagements may cause client dissatisfaction, project and staffing delays in new and existing engagements, project cancellations, project losses, higher project costs and loss of revenue, resulting in decreases in profits and a material adverse effect on our business, results of operations, financial condition and cash flows.

We may face difficulties in providing end-to-end business solutions or delivering complex and large projects for our clients that could cause clients to discontinue their work with us, which in turn could harm our business, results of operations and financial condition.

We have been expanding the nature and scope of our engagements and have added new service offerings across the industries we serve. The success of these service offerings depends, in part, upon continued demand for such services by our existing and prospective clients and our ability to meet this demand in a cost-competitive and effective manner. To obtain engagements for such end-to-end solutions, we also are more likely to compete with large, well-established international consulting firms, resulting in increased competition and pricing pressure. Accordingly, we cannot be certain that our new service offerings will effectively meet client needs or that we will be able to attract existing and prospective clients to these service offerings.

The increased breadth of our service offerings has resulted and may continue to result in larger and more complex projects with our clients. This requires us to establish closer relationships with our clients and achieve a thorough understanding of their operations. Our ability to establish such relationships depends on a number of factors, including the proficiency of our professionals and our management personnel. Our failure to understand our client requirements or our failure to deliver services that meet the requirements specified by our clients could result in termination of client contracts, client disputes and contractual claims against us, and we could be liable to our clients for significant penalties or damages, as well as legal and litigation costs if claims are not resolved amicably, each of which could have a material adverse effect on our business, results of operations and financial condition.

Larger projects often involve multiple engagements or stages, and there is a risk that a client may choose not to retain us for additional stages or may cancel or delay additional planned engagements. These terminations, cancellations or delays may result from factors that have little or nothing to do with the quality of our services, such as the business or financial condition of our clients or the economy generally. Such cancellations or delays make it difficult to plan for project resource requirements and inaccuracies in such resource planning and allocation may have a negative impact on our business, results of operations and financial condition.

Failure to maintain effective internal control over financial reporting could result in a loss of investor confidence in our financial reports and have a material adverse effect on our stock price.

As a public company we are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act of 2002 (the “Sarbanes-Oxley Act”), the Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Dodd-Frank Act”), the rules and regulations of the Nasdaq Global Select Market and other applicable securities rules and regulations. The Sarbanes-Oxley Act requires, among other things, that we assess the effectiveness of our internal control over financial reporting annually and the effectiveness of our disclosure controls and procedures quarterly. In particular, Section 404 of the Sarbanes-Oxley Act (“Section 404”) requires us to perform system and process evaluation and testing of our internal control over financial reporting to allow management to report on, and our independent registered public accounting firm to attest to, the effectiveness of our internal control over financial reporting.

Our efforts to comply with Section 404 and the related regulations regarding our required assessment of our internal control over financial reporting and our external auditors’ audit of that assessment requires the commitment of significant financial and managerial resources. We also must attract, integrate, train and retain qualified personnel, especially in the areas of accounting, internal audit and financial disclosure to ensure, among other outcomes, our accounting and internal controls comply with applicable rules, regulations and requirements, including Section 404 and SEC rules and regulations. We consistently assess the adequacy of our internal control over financial reporting, remediate any control deficiencies that may be identified, and validate through testing that our control environment is functioning as documented. While we do not anticipate any material weaknesses, the inability of management and our independent registered public accounting firm to provide us with an unqualified report as to the adequacy and effectiveness, respectively, of our internal controls over financial reporting, including operations of any acquired businesses, such as Polaris or eTouch, in the applicable reporting period, for future year-ends could result in adverse consequences to us, including, but not limited to, a loss of investor confidence in the reliability of our financial statements, which could cause the market price of our stock to decline. If we cannot maintain and execute adequate internal control over financial reporting or implement required new or improved controls to ensure the reliability of the financial reporting and preparation of our financial statements for external use, we could suffer harm to our reputation, fail to meet our public reporting requirements on a timely basis, or be unable to properly report on our business and the results of our operations, and the market price of our securities could be materially adversely affected.

Our management team and other personnel will need to devote a substantial amount of time to these compliance initiatives which extend to all of our subsidiaries, including Polaris and its subsidiaries. In particular, these increased obligations will require substantial attention from our senior management and divert its attention away from the day-to-day management of our business, which could materially and adversely affect our business operations.

We may not be able to obtain, develop or implement new systems, infrastructure, procedures and internal controls that are required to support our operations, maintain cost controls, market our services and manage our relationships with our clients.

To manage our operations and growth effectively, we must continue to maintain and may need to enhance our IT infrastructure, financial and accounting systems and internal controls and manage expanded operations in several locations. Further, we will need to manage our relationships with various clients, vendors and other third parties. We may not be able to develop and implement on a timely basis, if at all, the systems, infrastructure, procedures and controls required to support our operations, including infrastructure management, and controls regarding usage and deployment of hardware and software, for performance of our services. Any failure by us to comply with these controls or our contractual obligations could result in legal liability to us, which would have a negative impact on our consolidated statements of income and consolidated balance sheets. Additionally, some factors, like changes in immigration laws or visa processing restrictions that limit our ability to engage offshore resources at client locations in the United States, the United Kingdom or other countries, are outside of our control. Our future operating results will also depend on our ability to develop and maintain a successful sales organization and processes that can ensure our ability to effectively monitor, manage and forecast our sales activities and resource needs. If we are unable to manage our operations effectively, our operating results could fluctuate from quarter to quarter and our financial condition could be materially adversely affected. If we do not continue to maintain and/or develop and implement the right processes and tools to manage our enterprise, our ability to compete successfully and achieve our business objectives could be impaired.

Currency exchange rate fluctuations may materially and negatively affect our revenue, gross margin, operating margin, net income and cash flows.

The exchange rates among the Indian and Sri Lankan rupees and the U.S. dollar and the U.K. pound sterling, as well as the exchange rates between the U.S. dollar and the U.K. pound sterling, have changed substantially in prior periods and may continue to fluctuate substantially in the future. We expect that a majority of our revenue will continue to be generated in the U.S. dollar, U.K. pound sterling, Indian Rupee, the Australian dollar, the Canadian dollar and the Singapore dollar for the foreseeable future. Any appreciation of the U.S. dollar against the U.K. pound sterling, the euro, the Indian rupee, the Singapore dollar, the Canadian dollar and/or the Australian dollar will likely have a negative impact on our revenue, operating income and net income. For the foreseeable future, we also expect that a significant portion of our expenses, including personnel costs and operating expenditures, will continue to be denominated in Indian and Sri Lankan rupees. Accordingly, any material appreciation of the Indian rupee or the Sri Lankan rupee against the U.S. dollar or U.K. pound sterling could have a material adverse effect on our cost of revenue, gross margins and net income, which may in turn have a negative impact on our business, operating results, financial condition and results of operations.

Our operating results may be adversely affected by our use of derivative financial instruments.

There is no guarantee that our financial results will not be adversely affected by currency exchange rate fluctuations or that any efforts by us to engage in currency hedging activities will be effective.

Although we have adopted a six-quarter cash flow hedging program to minimize the effect of any Indian rupee fluctuation on our financial condition, these hedges may not be effective or may cause us to forego certain potential benefits, especially given the volatility of the currency. If we are unable to accurately forecast our Indian-rupee denominated costs, we may lose our ability to qualify for hedge accounting. We cannot guarantee our ability to accurately forecast such expenses. Furthermore, we are exposed to foreign currency volatility related to other currencies including the Swedish Krona, the Canadian dollar, the euro, the Singapore dollar, the Sri Lankan rupee, and the Australian dollar, which are either not hedged or not hedged in full. Any significant change as compared to the U.S. dollar could have a negative impact on our revenue, operating profit, and net income. Finally, as we continue to leverage our global delivery model, more of our expenses will be incurred in currencies other than those in which we bill for the related services. An increase in the value of these currencies, such as the Indian rupee or Sri Lankan rupee, against the U.S. dollar or U.K. pound sterling could increase costs for delivery of services at off-shore sites by increasing labor and other costs that are denominated in the respective local currency.

Our global operations expose us to numerous and sometimes conflicting legal and regulatory requirements, and violation of these regulations could harm our business.

We are subject to numerous, and sometimes conflicting, legal regimes on matters as diverse as anti-corruption, import/export controls, content requirements, trade restrictions, tariffs, taxation, sanctions, immigration, internal and disclosure control obligations, securities regulation, anti-competition, data privacy and protection, employment and labor relations. Some of these legal regimes are in emerging markets where legal systems may be less developed or familiar to us. Compliance with diverse legal requirements is costly, time-consuming and requires significant resources. Violations of one or more of these regulations in the conduct of our business could result in significant fines, criminal sanctions against us or our officers, prohibitions on doing business and damage to our reputation. Violations of these regulations in connection with the performance of our obligations to our clients also could result in liability for significant monetary damages, fines and/or criminal prosecution, unfavorable publicity and other reputational damage, restrictions on our ability to process information and allegations by our clients that we have not performed our contractual obligations. Due to the varying degrees of development of the legal systems of the countries in which we operate, local laws may not be well developed or provide sufficiently clear guidance and may be insufficient to protect our rights.

In particular, in many parts of the world, including countries in which we operate and/or seek to expand, it is possible that our employees, subcontractors or agents in the local business community might not conform to international business standards and could violate anti-corruption laws or regulations, including the UK Bribery Act of 2010 and the U.S. Foreign Corrupt Practices Act (“FCPA”) which prohibit improper payments or offers of improper payments to foreign officials to obtain business or any other benefit. The FCPA also requires covered companies to make and keep books and records that accurately and fairly reflect the transactions of the company and to devise and maintain an adequate system of internal accounting controls. Although we have policies and procedures in place that are designed to promote legal and regulatory compliance, our employees, subcontractors and agents could take actions that violate these policies or procedures or applicable anti-corruption laws, regulations or standards. Violations of these laws or regulations by us, our employees or any of these third parties could subject us to criminal or civil enforcement actions (whether or not we participated or knew about the actions leading to the violations), including fines or penalties, disgorgement of profits and suspension or disqualification from work, any of which could materially adversely affect our business, including our results of operations and our reputation.

We may be audited by software vendors from whom we license or use their software to train our resources or serve our clients, which may result in claims for infringement, violations of license provisions, or other damages.

From time to time, we are subject to audit by our vendors from whom we license and use software to confirm compliance with usage and deployment requirements. If, as a result of these audits or otherwise, vendors believe that we have committed usage or deployment violations, we may be required to purchase software from these vendors, and we may be subject to claims of infringement or wrongful usage which may result in legal liability to us, including damages, legal fees and expenses. In addition to legal liability and related expense of any litigation, which may include damages and the obligations to purchase software from such software vendor, we may be prevented from using the vendor’s software in the future which may have a material and negative impact on our ability to service our customers, conduct training of our IT professionals and generally perform our services.

Negative public perception in the markets in which we sell services regarding offshore IT service providers and proposed anti-outsourcing legislation may adversely affect demand for our services.

We have based our growth strategy on certain assumptions regarding our industry, services and future demand in the market for such services. However, the trend to outsource IT services may not continue and could reverse. Offshore outsourcing is a politically sensitive topic in the United States and the United Kingdom. For example, recently many organizations and public figures in the United States and the United Kingdom have publicly expressed concern about a perceived association between offshore outsourcing providers and the loss of jobs in their home countries. In addition, there has been recent publicity about the negative experience of certain companies that use offshore outsourcing, particularly in India. Current or prospective clients may elect to perform such services themselves or may be discouraged from transferring these services from onshore to offshore providers to avoid negative perceptions that may be associated with using an offshore provider. Any slowdown or reversal of existing industry trends towards offshore outsourcing would seriously harm our ability to compete effectively with competitors that operate out of facilities located in the United States or the United Kingdom. Legislation in the United States or in certain European countries may be enacted that is intended to discourage or restrict outsourcing. Any changes to existing laws or the enactment of new legislation restricting offshore outsourcing in the United States or the United Kingdom may adversely affect our ability to do business in the United States or in the United Kingdom, particularly if these changes are widespread, and could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Cyber-attacks as well as improper disclosure or control of personal information could result in liability and harm our reputation, which could adversely affect our business and results of operations.

Our business is heavily dependent on the security of our IT networks and those of our clients. Internal or external attacks on any of those could disrupt the normal operations of our engagements and impede our ability to provide critical services to our clients, thereby subjecting us to liability under our contracts. Additionally, our business involves the use, storage and transmission of information about our employees, our clients and customers of our clients. While we take measures to protect the security of, and unauthorized access to, our systems, as well as the privacy of personal and proprietary information, it is possible that our security controls over our systems, as well as other security practices we follow or those systems of our clients into which we operate and rely upon, may not prevent the improper access to or disclosure of personally identifiable or proprietary information. Such disclosure could harm our reputation and subject us to liability under our contracts and laws that protect personal data, resulting in increased costs or loss of revenue.

We may face liability if we breach our obligations related to the protection, security, nondisclosure of confidential client information or disclosure of sensitive data or failure to comply with data protection laws and regulations.

In the course of providing services to our clients, we may have access to confidential client information, including nonpublic personal data. We are bound by certain agreements to use and disclose this information in a manner consistent with the privacy standards under regulations applicable to our clients and are subject to numerous U.S. and foreign jurisdiction laws and regulations designed to protect this information, such as the General Data Protection Regulation (GDPR), the European Union-wide legal framework to govern data collection, use and sharing and related consumer privacy rights and various U.S. federal and state laws governing the protection of health or other individually identifiable information. If any person, including a team member of ours, misappropriates client confidential information, or if client confidential information is inappropriately disclosed due to a security breach of our computer systems, system failures or otherwise, or if a security breach occurs on a project on which we are engaged, we may have substantial liabilities to our clients or our clients' customers and may incur substantial liability and penalties in connection with any violation of applicable privacy laws and/or criminal prosecution. In addition, in the event of any breach or alleged breach of our confidentiality agreements with our clients, these clients may terminate their engagements with us or sue us for breach of contract, resulting in the associated loss of revenue and increased costs and damaged reputation. We may also be subject to civil or criminal liability if we are deemed to have violated applicable regulations. We cannot assure you that we will adequately address the risks created by the regulations to which we may be contractually obligated to abide.

In addition, as a global service provider with customers in a broad range of industries, we often have access to or are required to manage, utilize, collect and store sensitive data subject to various regulatory regimes, including but not limited to U.S. federal and state laws governing the protection of personal financial and health data and the GDPR. If unauthorized access to or disclosure of such data in our possession or control occurs or we otherwise fail to comply with applicable laws and regulations in this regard, we could be exposed to civil or criminal enforcement actions and penalties in connection with any violation of applicable data protection laws, as well as lawsuits brought by our customers, our customers' customers, their clients or others for breaching contractual confidentiality and security provisions or data protection laws. Laws and expectations relating to data protections continue to evolve in ways that may limit our access, use and disclosure of sensitive data, and may require increased expenditures by us or may dictate that we not offer certain types of services.

In addition, many of our agreements with our clients do not include any limitation on our liability to them with respect to breaches of our obligation to keep the information we receive from them confidential. Although we have general liability insurance coverage, including coverage for errors or omissions, there can be no assurance that coverage will continue to be available on reasonable terms or will be sufficient in amount to cover one or more large claims, or that the insurer will not disclaim coverage as to any future claim. The successful assertion of one or more large claims against us that exceed available insurance coverage or changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, results of operations and financial condition.

Interruptions or delays in service from our third-party providers could impair our global delivery model, which could result in client dissatisfaction and a reduction of our revenue.

We depend upon third parties to provide a high-speed network of active voice and data communications 24 hours per day and various satellite and optical links between our global delivery centers and our clients. Consequently, the occurrence of a natural disaster, or pandemic such as COVID-19 or other unanticipated problems with the equipment or at the facilities of these third-party providers could result in unanticipated interruptions in the delivery of our services. For example, we may not be able to maintain active voice and data communications between our global delivery centers and our clients' sites at all times due to disruptions in these networks, system failures or virus attacks. Any significant loss in our ability to communicate or any impediments to any IT professional's ability to provide services to our clients could result in a disruption to our business, which could hinder our performance or our ability to complete client projects in a timely manner. This, in turn, could lead to substantial liability to our clients, client dissatisfaction, loss of revenue and a material adverse effect on our business, our operating results and financial condition. We cannot assure you that our business interruption insurance will adequately compensate our clients or us for losses that may occur. Even if covered by insurance, any significant interruptions or delays in communication channels or failure or breach of security of our systems could damage our reputation and cause us to lose revenue.

Some of our client contracts contain restrictions or penalty provisions that, if triggered, could result in lower future revenue and decrease our profitability.

We have entered in the past, and may in the future enter, into contracts that contain restrictions or penalty provisions that, if triggered, may adversely affect our operating results. For instance, some of our client contracts provide that, during the term of the contract and for a certain period thereafter ranging from six to twelve months, we may not use the same personnel to provide similar services to any of the client's competitors. This restriction may hamper our ability to compete for and provide services to clients in the same industry. In addition, some contracts contain provisions that would require us to pay penalties or liquidated damages to our clients if we do not meet pre-agreed service level requirements. If any of the foregoing were to occur, our future revenue and profitability under these contracts could be materially harmed.

Our contractual limitations on liability with our clients and third parties may not be enforceable.

Under a majority of our agreements with our clients, our liability for breach of certain of our obligations is generally limited to actual damages suffered by the client and is typically capped at the greater of an agreed amount or the fees paid or payable to us for a period of time under the relevant agreement. These limitations and caps on liability may be unenforceable or otherwise may not protect us from liability for damages. In addition, certain liabilities, such as claims of third parties for which we may be required to indemnify our clients or liability for breaches of confidentiality, are generally not limited under those agreements. Our agreements are governed by laws of multiple jurisdictions, therefore the interpretation of such provisions, and the availability of defenses to us, may vary, which may contribute to the uncertainty as to the scope of our potential liability. In addition, many of our agreements with our clients do not include any limitation on our liability to them with respect to breaches of our obligation to keep the information we receive from them confidential.

Our services may infringe on the intellectual property rights of others, which may subject us to legal liability, harm our reputation, prevent us from offering some services to our clients or distract management.

We cannot be sure that our services or the deliverables that we develop and create for our clients do not infringe on the intellectual property rights of third parties and infringement claims may be asserted against us or our clients. As the number of patents, copyrights and other intellectual property rights in our industry increase, we believe that companies in our industry will face more frequent infringement claims. These claims may harm our reputation, distract management, increase costs and prevent us from offering some services to our clients. Our success depends, in part, upon our ability to protect our proprietary methodologies, trade secrets and other intellectual property. We rely upon a combination of trade secrets, confidentiality policies, non-disclosure agreements, other contractual arrangements and copyright, patent, and trademark laws to protect our intellectual property rights. Further, the laws of India and Sri Lanka, areas in which we have a substantial presence, do not protect intellectual property rights to the same extent as those of the United States and we may be unsuccessful in protecting our intellectual property rights. Unauthorized use of our intellectual property rights may result in loss of clients and increased competition. Efforts to enforce our intellectual property rights can be extremely expensive, time consuming and unpredictable.

Historically, for work product we create for and the services provided to our clients, we have generally agreed to indemnify our clients for all expenses and liabilities resulting from infringement of intellectual property rights of third parties based on the deliverables and services that we have performed and provided to our clients. In some instances, the amount of these indemnities may be greater than the revenue we receive from the client. In addition, as a result of intellectual property litigation, we may be required to stop selling, incorporating or using products that use or incorporate the infringed intellectual property. We may be required to obtain a license or pay a royalty to make, sell or use the relevant technology from the owner of the infringed intellectual property. Such licenses or royalties may not be available on commercially reasonable terms, or at all. We may also be required to redesign our services or change our methodologies so as not to use the infringed intellectual property, which may not be technically or commercially feasible and may cause us to expend significant resources. Subject to certain limitations, under our indemnification obligations to our clients, we may also have to provide refunds to our clients to the extent that we must require them to cease using an infringing deliverable if we are unable to provide a work-around or acquire a license to permit use of the infringing deliverable that we had provided to them as part of a service engagement. If we are obligated to make any such refunds or dedicate time to provide alternatives or acquire a license to the infringing intellectual property, our business and financial condition could be materially adversely affected.

Political instability or changes in the central or state governments in India could result in the change of several policies relating to foreign direct investment and repatriation of capital and dividends. Further, changes in the monetary and economic policies could adversely affect economic conditions in India generally and our business in particular.

We have subsidiaries in India and a significant portion of our business, fixed assets and human resources are located in India. As a result, our business is affected by foreign exchange rates and controls, interest rates, local regulations, changes in government policy, taxation, social and civil unrest and other political, economic or other developments in or affecting India. Since 1991, successive Indian governments have pursued policies of economic liberalization. In the past, the Indian economy has experienced many of the problems that commonly confront the economies of developing countries, including high inflation, erratic gross domestic product growth and shortages of foreign exchange. The Indian government has exercised, and continues to exercise, significant influence over many aspects of the Indian economy and Indian government actions concerning the economy could have a material adverse effect on private sector entities like us. In the past, the Indian government has provided significant tax incentives and relaxed certain regulatory restrictions in order to encourage foreign investment in specified sectors of the economy, including the software development services industry. Programs that have benefited us include, among others, tax holidays, liberalized import and export duties and preferential rules on foreign investment. Notwithstanding these benefits, as noted above, India’s central and state governments remain significantly involved in the Indian economy as regulators. In recent years, the Indian government has introduced non-income related taxes, including the fringe benefit tax (which was repealed as of April 1, 2009) and General Sales Taxes ("GST"), and income-related taxes, including the Minimum Alternative Tax. In 2019, the Government of India introduced a new tax regime for certain Indian companies by enacting the Taxation Laws (Amendment) Act, 2019. The new tax regime is optional and provides for a lower tax rate for Indian companies, subject to certain conditions, which among other things includes not availing of specified exemptions or incentives. In addition, a change in government leadership in India or change in policies of the existing government in India that results in the elimination of any of the benefits realized by us from our Indian operations or the imposition of new taxes applicable to such operations could have a material adverse effect on our business, results of operations and financial condition. For instance, certain changes to the application of the Minimum Alternative Tax with respect to Special Economic Zone ("SEZ") units may negatively impact our cash flows and other benefits enjoyed by us which could have a material adverse effect on our business, results of operations and financial condition.

Our net income may decrease if the governments of the United States, the United Kingdom, the Netherlands, India, Sri Lanka, Germany, Singapore, Sweden or Hungary adjust the amount of our taxable income by challenging our transfer pricing policies.

Our subsidiaries conduct intercompany transactions among themselves and with the U.S. parent company on an arm's-length basis in accordance with U.S. and local country transfer pricing regulations. The jurisdictions in which we operate could challenge our determination of arm's-length profit and issue tax assessments. Although the United States has income tax treaties with most countries in which we have operations, which should alleviate the risk of double taxation, the costs to appeal any such tax assessment and potential interest and penalties could decrease our earnings and cash flows.

The Indian taxing authorities issued assessment orders for the fiscal years ended March 31, 2004 to March 31, 2014 of our Indian subsidiary, Virtusa (India) Private Limited, now merged with and into our affiliate, Virtusa Consulting Services Private Limited and Virtusa Software Services Private Limited (referred to as "Virtusa India"). At issue in these assessments were several matters, the most significant of which was the redetermination of the arm's-length profit related to intercompany transactions. For fiscal years ended March 31, 2004 and 2005, we contested both assessments and also filed appeals with Indian tax authorities and U.S. Competent Authorities. Although we have settled certain tax obligations for the fiscal years ended March 31, 2004 and 2005, we have appealed certain other tax related matters affecting our fiscal years ended March 31, 2004 and 2005 with the Indian tax authorities. During the fiscal year ended March 31, 2005, we have appealed the redetermination of arm-length pricing for transactions with our U.K. subsidiary. Although we have successfully resolved some issues, we continue to appeal several other fiscal years' assessments with the Indian tax authorities. If we do not prevail in our appeals, we may incur an additional legal liability and obligations to pay additional interest, penalties and costs related to such matters.

Our net income may decrease if the governments of India or Sri Lanka levy new taxes or reduce or withdraw tax benefits and other incentives provided to us.

Virtusa India is an export-oriented company under the Indian Income Tax Act of 1961 and is entitled to claim tax exemption for each Software Technology Park ("STP"), which it operates. Virtusa India historically has operated STPs in Hyderabad and in Chennai. The income tax benefits of the STP in Hyderabad and Chennai expired on March 31, 2010 and 2011, respectively. Historically, however, substantially all of the earnings of both STPs qualified as tax-exempt export profits. Although we believe we have complied with and were eligible for the STP holidays, the government of India may deem us ineligible for the STP holiday or make adjustments to the profit level in previous tax years, subject to the applicable statute of limitations, which could result in additional legal liability, including obligations to pay additional taxes, penalties, interest and other costs arising out of such matter. For instance, the Indian taxing authorities issued an assessment order for the fiscal years ended March 31, 2007 against Virtusa India related to the denial of all STP benefits for our Chennai STP on the basis that the STP was formed by the splitting up or the reconstruction of our Hyderabad STP. This matter is currently pending before the High Court of Hyderabad. We have filed appeals with the appropriate Indian tax authorities to appeal other years. We may incur additional legal liability and obligations to pay additional interest, penalties and costs related to such matter. We have appealed such assessments but we can make no assurance that our appeals will be successful.

We have located most of our Indian operations in areas designated as a SEZ, under the SEZ Act of 2005. In particular, we are continuing our build out of a facility on a 6.3 acre parcel of land in Hyderabad, India that has been designated as a SEZ. In addition, we have leased space and operate in SEZ designated locations in Bangalore, Pune and Chennai, India. Although our profits from the SEZ operations would be eligible for certain income tax exemptions for a period up to 15 years, we may not be able to take full advantage of the tax holidays in each SEZ if we are not able to grow our operations, including the hiring of IT professionals into the SEZ facilities, and there is no guarantee that we will secure SEZ status for any other future locations in India. Additionally, the government of India may deem us ineligible for a SEZ holiday or make adjustments to the transfer pricing profit levels resulting in an overall increase in our effective tax rate.

In addition, our Sri Lankan subsidiary, Virtusa Private Ltd. ("Virtusa SL"), was approved as an export computer software developer by the BOI in 1998 and has been granted a tax holiday. Virtusa SL has negotiated various extensions and new arrangements of the original holiday period in exchange for further capital investments in Sri Lanka facilities. The most recent 12-year tax holiday agreement, which expired on March 31, 2019, requires that we meet certain new job creation, retention and investment criteria. As of March 31, 2019, we believe we have met the job creation target. We have submitted the required details to BOI and are awaiting their confirmation. At March 31, 2019, we were eligible for the entire 12-year tax holiday. Further, the Sri Lankan Department of Inland Revenue has challenged the eligibility of the initial year of our granted tax holiday. This challenge was affirmed by the Tax Appeals Commission based on their judgment that we did not meet the required investment commitments. However, during the fiscal year ended March 31, 2015, we received notice from the BOI certifying the tax holiday for all previously claimed years, including the initial year under challenge. If any such tax assessment were ruled against us, such a ruling may materially harm our business, operating results, and financial results and materially reduce our profitability.

Our business and operations could be adversely affected if we are subject to stockholder activism, which could cause us to incur significant expense and impact the market price of our common stock.

Our business and operations could be negatively affected as a result of stockholder activism, which could cause us to incur significant expense, hinder execution of our business strategy, and impact the trading value of our common stock. Stockholder activism, including potential proxy contests, could result in substantial costs and divert the attention of our management and our board of directors and resources from our business. Activist campaigns can create perceived uncertainties as to our future direction, strategy or leadership and may result in the loss of potential business opportunities and harm our ability to attract or retain clients, employees and investors. In addition, we may be required to incur significant legal fees and other expenses related to any activist stockholder matters. Further, the market price of our common stock could be subject to significant fluctuation or otherwise be adversely affected by the events, risks, and uncertainties of any stockholder activism.

Our amended and restated by-laws designate certain specified courts as the sole and exclusive forums for certain disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated by-laws provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware is the sole and exclusive forum for any state law claims for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a breach of fiduciary duty, (iii) any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our certificate of incorporation or our by-laws, or (iv) any action asserting a claim against us that is governed by the internal affairs doctrine (the "Delaware Forum Provision"). The Delaware Forum Provision does not apply to claims arising under the Exchange Act or the Securities Act. Our by-laws further provide that the U.S. District Court for the District of Massachusetts will be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act (the "Federal Forum Provision"), as our principal executive offices are located in Southborough, Massachusetts. Our by-laws provide that any person or entity purchasing or otherwise acquiring any interest in any shares of our capital stock is deemed to have notice of and consented to the foregoing Delaware Forum Provision and the Federal Forum Provision; provided, however, that stockholders cannot and will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder.

The Delaware Forum Provision and the Federal Forum Provision may impose additional litigation costs on stockholders in pursuing the claims identified above, particularly if the stockholders do not reside in or near the State of Delaware or the Commonwealth of Massachusetts. Additionally, the Delaware Forum Provision and the Federal Forum Provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and other employees. In addition, while the Delaware Supreme Court ruled in March 2020 that federal forum selection provisions purporting to require claims under the Securities Act be brought in federal court are "facially valid" under Delaware law, there is uncertainty as to whether other courts will enforce our Federal Forum Provision. If the Federal Forum Provision is found to be unenforceable in an action, we may incur additional costs associated with resolving such an action. The Federal Forum Provision may also impose additional litigation costs on stockholders who assert that the provision is not enforceable or invalid. The Court of Chancery of the State of Delaware or the U.S. District Court for the District of Massachusetts may also reach different judgments or results than would other courts, including courts where a stockholder considering an action may be located or would otherwise choose to bring the action, and such judgments may be more or less favorable to us than our stockholders.

Provisions in our charter documents and under Delaware law may prevent or delay a change of control of us and could also limit the market price of our common stock.

Certain provisions of Delaware law and of our certificate of incorporation and by-laws could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, control of us, even if such a change in control would be beneficial to our stockholders or result in a premium for your shares of our common stock. These provisions may also prevent or frustrate attempts by our stockholders to replace or remove our management. These provisions include:

- a classified board of directors
- limitations on the removal of directors
- advance notice requirements for stockholder proposals and nominations
- the inability of stockholders to act by written consent or to call special meetings
- the ability of our board of directors to make, alter or repeal our by-laws

The affirmative vote of the holders of at least 75% of our shares of capital stock entitled to vote is necessary to amend or repeal the above provisions that are contained in our certificate of incorporation. In addition, our board of directors has the ability to designate the terms of and issue new series of preferred stock without stockholder approval. Also, absent approval of our board of directors, our by-laws may only be amended or repealed by the affirmative vote of the holders of at least 75% of our shares of capital stock entitled to vote.

In addition, we are subject to the provisions of Section 203 of the Delaware General Corporation Law, which limits business combination transactions with stockholders of 15% or more of our outstanding voting stock that our board of directors has not approved. These provisions and other similar provisions make it more difficult for stockholders or potential acquirers to acquire us without negotiation. These provisions may apply even if some stockholders may consider the transaction beneficial to them.

These provisions could limit the price that investors are willing to pay in the future for shares of our common stock. These provisions might also discourage a potential acquisition proposal or tender offer, even if the acquisition proposal or tender offer is at a premium over the then current market price for our common stock.

Item 1B. ***Unresolved Staff Comments.***

None.

Item 2. *Properties.*

Our corporate headquarters are located in Southborough, Massachusetts, where we lease approximately 12,120 square feet for a term expiring July 31, 2028. We also have major sales and marketing offices, innovation labs, and our digital transformation studio in New York and London.

We both own and lease facilities to support our operations. At March 31, 2020, our principal delivery locations are as set forth in the table below:

Country	Number of Locations	Square Footage Leased	Square Footage Owned	Total Square Footage	Lease period
India	31	601,367	922,150	1,523,517	1 - 9 years
United States	13	202,543	—	202,543	1 - 9 years
Sri Lanka	7	229,425	—	229,425	1 - 5 years
Total	51	1,033,335	922,150	1,955,485	

In March 2008, we entered into a 99-year lease, as amended in August 2008, with an option for an additional 99 years for approximately 6.3 acres of land in Hyderabad, India, where we have built a campus of approximately 325,000 square feet. We also own 597,150 square feet in Chennai and Hyderabad, India which is also listed in the above table under “Square Footage Owned”.

We believe that our existing and planned facilities are adequate to support our existing operations, and well maintained, and that, as needed, we will be able to obtain suitable additional facilities on commercially reasonable terms.

Item 3. *Legal Proceedings.*

We are involved in various claims and legal actions arising in the ordinary course of business. In the opinion of our management, the outcome of such claims and legal actions, if decided adversely, is not currently expected to have a material adverse effect on our operating results, cash flows or consolidated financial position, except as disclosed below;

One of our larger clients during our fiscal year ending March 31, 2020 made a written demand for damages related to a project in which we were performing services. The client alleges breaches of certain representations and warranties regarding our performance and is seeking indemnification for damages from those alleged breaches. No litigation has been filed. However, we cannot provide any assurance that we will prevail in the dispute or even partially prevail. Further, although we have engaged in settlement discussions, if we are unsuccessful in any settlement discussions, we also cannot provide any assurance that the client will not use set off rights in our contract, even if we dispute the claims or amount of damages alleged. In the event we do not fully prevail in this dispute, or we agree on a settlement for such claims, we may have to pay damages in amounts for which we may not have reserved or which may or may not be covered by our insurance policies; further, even if the damages are covered, depending on the outcome, our insurance may not cover or be adequate to pay the entire claim. In addition, we cannot guarantee that we will not lose future business with such client as a result of such dispute.

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 trades on the Nasdaq Global Select Market under the symbol "VRTU".

As of May 22, 2020, there were approximately 30,132,817 shares of our common stock outstanding held by approximately 27 stockholders of record and the last reported sale price of our common stock on the Nasdaq Global Select Market on May 22, 2020 was $27.45 per share.

Dividend Policy

We have never declared or paid any cash dividends on our common stock. We currently expect to retain future earnings, if any, to finance the growth and development of our business and we do not anticipate paying any cash dividends in the foreseeable future. We intend to permanently reinvest our foreign earnings. Our line of credit with a bank could restrict, or our terms of convertible preferred stock could impair, our ability to declare or make any dividends or similar distributions.

Securities Authorized for Issuance under Equity Compensation Plans

See Part III, Item 12 for information regarding securities authorized for issuance under our equity compensation plans. Such information is incorporated herein by reference to our definitive proxy statement pursuant to Regulation 14A, which proxy statement is expected to be filed with the Securities and Exchange Commission not later than 120 days after the close of our fiscal year ended March 31, 2020.

Recent Sales of Unregistered Securities; Use of Proceeds from Registered Securities

Except for sales of unregistered securities that have been previously reported by the Company in either its quarterly reports on Form 10-Q or current reports on Form 8-K, there were no sales of unregistered securities of the Company during the period covered by this Annual Report.

Issuer Purchases of Equity Securities

Under the terms of our 2007 Stock Option and Incentive Plan ("2007 Plan") and 2015 Stock Option and Incentive Plan ("2015 Plan"), we have issued shares of restricted stock to our employees. On the date that these restricted shares vest, we automatically withhold, via a net exercise provision pursuant to our applicable restricted stock agreements and the 2007 Plan and 2015 Plan, as the case may be, the number of vested shares (based on the closing price of our common stock on such vesting date) equal to tax liability owed by such grantee. The shares withheld from the grantees under the 2007 Plan or the 2015 Plan, as the case may be, to settle their tax liability are reallocated to the number of shares available for issuance under the 2015 Plan. For the three month period ended March 31, 2020, we withheld an aggregate of 151,526 shares of restricted stock at a weighted average price of $44.62 per share.

On August 5, 2019, our board of directors authorized a share repurchase program of up to $30 million of our common stock over 12 months from the approval date, subject to certain price and other trading restrictions as established by the Company. During the fiscal year ended March 31, 2020, we repurchased 505,565 shares of the Company's common stock at a weighted average price of $36.93 per share for an aggregate purchase price of $18.7 million. As of March 31, 2020, the share repurchase program has been suspended due to the COVID-19 pandemic.

Item 6. ***Selected Financial Data.***

The selected historical financial data set forth below at March 31, 2020 and 2019 and for the fiscal years ended March 31, 2020, 2019 and 2018 are derived from our consolidated financial statements which are included elsewhere in this Annual Report on Form 10-K. The selected historical financial data at March 31, 2018, 2017 and 2016 and for the fiscal years ended March 31, 2017 and 2016 are derived from our consolidated financial statements which are not included elsewhere in this Annual Report. The following selected consolidated financial data should be read in conjunction with our consolidated financial statements, the related notes and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included elsewhere in this Annual Report. The historical results are not necessarily indicative of the results to be expected for any future period.

Consolidated statements of income data

	Fiscal Year Ended March 31,				
	2020 (1)	2019 (1)	2018	2017	2016
	(In thousands, except share and per share amounts)				
Revenue	$ 1,312,283	$ 1,247,863	$ 1,020,669	$ 858,731	$ 600,302
Costs of revenue	959,143	884,652	725,445	620,950	389,310
Gross profit	353,140	363,211	295,224	237,781	210,992
Operating expenses	272,928	292,943	248,837	219,410	165,672
Income from operations	80,212	70,268	46,387	18,371	45,320
Other income (expense)	(31,551)	(32,104)	(4,551)	447	12,349
Income before income tax expense	48,661	38,164	41,836	18,818	57,669
Income tax expense	309	20,473	32,888	2,561	12,649
Net income	$ 48,352	$ 17,691	$ 8,948	$ 16,257	$ 45,020
Less: Net income attributable to the noncontrolling interests, net of tax	450	1,545	7,694	4,399	218
Net income available to Virtusa stockholders	$ 47,902	$ 16,146	$ 1,254	$ 11,858	$ 44,802
Less: Series A Convertible Preferred Stock dividends and accretion	4,350	4,350	3,963	—	—
Net income (loss) available to Virtusa common stockholders	$ 43,552	$ 11,796	$ (2,709)	$ 11,858	$ 44,802
Basic earnings (loss) per share available to Virtusa common stockholders	$ 1.45	$ 0.40	$ (0.09)	$ 0.40	$ 1.53
Diluted earnings (loss) per share available to Virtusa common stockholders	$ 1.42	$ 0.38	$ (0.09)	$ 0.39	$ 1.49
Weighted average number of common shares outstanding					
Basic	30,017,937	29,817,526	29,397,350	29,650,026	29,233,861
Diluted	30,654,527	30,659,654	29,397,350	30,215,171	30,004,982

(1) Amounts reflect the use of Accounting Standard Codification Topic 606 “Revenue from Contracts with Customers”

Consolidated balance sheets data

	At March 31,				
	2020	2019	2018	2017	2016
	(In thousands)				
Cash and cash equivalents	$ 290,837	$ 189,676	$ 194,897	$ 144,908	$ 148,986
Working capital	$ 429,285	$ 366,257	$ 332,635	$ 354,480	$ 387,515
Total assets	$ 1,337,067	$ 1,132,473	$ 1,113,180	$ 923,420	$ 980,012
Long-term debt, less current portion	$ 480,154	$ 351,320	$ 288,227	$ 176,722	$ 185,633
Series A Convertible Preferred Stock	$ 107,326	$ 107,161	$ 106,996	$ —	$ —
Redeemable noncontrolling interest	$ —	$ 23,576	$ —	$ —	$ —
Noncontrolling interests	$ —	$ —	$ 17,460	$ 87,984	$ 152,942
Virtusa stockholders’ equity	$ 397,441	$ 390,774	$ 418,623	$ 497,032	$ 475,013

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

The following discussion and analysis of our financial condition and results of our operations should be read together with our consolidated financial statements and related notes to consolidated financial statements included elsewhere in this Annual Report on Form 10-K. The following discussion contains forward-looking statements. Actual results may differ significantly from those projected in the forward-looking statements. Factors that might cause future results to differ materially from those projected in the forward-looking statements include, but are not limited to, those discussed in "Risk Factors" and elsewhere in this Annual Report.

For a discussion of our results of operations for the fiscal year ended March 31, 2019, including a year-to-year comparison between fiscal year ended March 31, 2019 and 2018 refer to Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report Form 10-K for the fiscal year ended March 31, 2019.

Business overview

Virtusa Corporation (the "Company", "Virtusa", "we", "us" or "our") is a global provider of digital engineering and information technology ("IT") outsourcing services that accelerate business outcomes for its clients. We support Forbes Global 2000 clients across large, consumer-facing industries like banking, financial services, insurance, healthcare, communications, technology, and media and entertainment, as these clients seek to improve their business performance through accelerating revenue growth, delivering compelling consumer experiences, improving operational efficiencies, and lowering overall IT costs. We provide services across the entire spectrum of the IT services lifecycle, from consulting, to technology and user experience ("UX") design, development of IT applications, systems integration, digital engineering, testing and business assurance, and maintenance and support services, including cloud, infrastructure and managed services. We help our clients solve critical business problems by leveraging a combination of our distinctive consulting approach, unique platforming methodology, and deep domain and technology expertise.

Our services enable our clients to accelerate business outcomes by consolidating, rationalizing and modernizing their core customer facing processes into one or more core systems. We help organizations realize the benefits of digital transformation ("DT") and cloud transformation ("CT") by bringing together digital infrastructure, analytics and intelligence and customer experience by engineering the digital enterprise of tomorrow on the cloud. We deliver cost effective solutions through a global delivery model, applying advanced methods such as Agile, an industry standard technique designed to accelerate application development. We use our Digital Transformation Studio (DTS), which is built by Virtusa's engineering teams that have decades of industry knowledge and experience. These teams are certified and leverage Virtusa's industry leading tools and assets, providing speed and transparency. DTS engineering tools drive software development lifecycle (SDLC) automation to improve quality, enabling speed and increasing productivity.

Headquartered in Massachusetts, we have offices throughout the Americas, Europe, Middle East and Asia, with global delivery centers in the United States, India, Sri Lanka, Hungary, Singapore, Poland, Mexico and Malaysia. We also have many employees who work with our clients either onsite or virtually, which offers flexibility for both clients and employees. At March 31, 2020, we had 22,830 employees, or team members.

In fiscal year 2020, we initiated a multi-year strategy to increase our revenue growth, operating margin accretion, and earnings per share growth. Our strategy focuses on three fundamental pillars: increasing profitable revenue growth by targeting large digital and cloud transformation engagements, achieving greater revenue diversification, categorized by geography, industry and client, and increasing gross and operating margins through pyramid efficiencies, project profitability and general and administrative ("G&A") expense leverage.

While we began to implement these three pillars in fiscal year 2020, we faced significant headwinds, which masked our progress. These headwinds were primarily related to a decline in revenue from a large European banking client, negotiated productivity savings which affected growth at our largest client, and adverse impacts on our clients' spend in the fiscal fourth quarter of 2020 due to the onset of the COVID-19 pandemic and related negative impact on our client budgets and the economy as a whole.

The significant negative impact of COVID-19 on the global economy has created near-term challenges for us and the entire IT services industry. Simultaneously, the global pandemic has revealed unique opportunities for us to strengthen and advance our three-pillar plan. As a result, in late fiscal year 2020 and early fiscal year 2021, we launched several new initiatives under our three-pillar strategy designed to enable us to navigate the pandemic's near-term economic impacts, and strengthen our overall market, financial and operational positioning going forward.

Our fiscal year 2021 plan builds on and strengthens our three-pillar strategy of increased profitable revenue growth, revenue and client diversification, and margin expansion. On the first pillar, we are increasing our efforts to capture new opportunities created by a change in Global 2000 enterprises' buying behaviors during the COVID-19 pandemic. For example, in late fiscal year 2020, we launched several go-to-market campaigns targeting remote workforce enablement, cost reduction and efficiency programs, and end-to-end deep digital transformation. In addition to our COVID-19 specific actions, we are also sharpening our sales and marketing efforts in fiscal year 2021 to target an increasing number of large, recurring, high-margin, and faster growing digital and cloud transformation engagements.

On the second pillar of revenue and client diversification, our efforts to increase our geographic diversification were strengthened in fiscal year 2020 when we realigned our senior executives to improve regional supervision, and made key local leadership hires in Europe and the Middle East. We expect these, and other changes being formulated, will help to expand our EMEA client base and enable closer client relationships, resulting in stronger revenue growth in EMEA. With respect to industry group diversification, our increased investments in attractive high-growth verticals, and strategic M&A, resulted in 46% year-over-year growth in healthcare client revenue and 25% growth in Communications and Technology (C&T) industry group revenue in fiscal year 2020. In fiscal year 2020, our C&T industry group represented 34% of our revenue, up from 29% in fiscal year 2019, while Banking, Financial Services and Insurance (BFSI) revenue declined from 62% to 58% over the same time. Given the significant opportunity we have to continue expanding our presence in high-growth sectors such as High-Tech and Healthcare, in fiscal year 2021 we will increase our investments in our domain expertise, skills, and sales and marketing programs in these sectors. We believe our actions will enable us to grow our revenue in these attractive industries faster than the company average, and simultaneously reduce our concentration in the Banking and Financial services segment.

Regarding client level diversification, we recognize the importance over the long-term to reduce revenue concentration at our largest accounts and capture increasing organic growth opportunities across the remainder of our account base. To do so, in fiscal year 2021, we will direct more of our sales and marketing efforts toward smaller accounts that have the ability to expand significantly with us. We have had success with this strategy at our strategic clients. We will apply these same techniques to grow high potential accounts faster than our total company in order to accelerate account diversification.

Finally, with respect to Virtusa's third pillar, margin expansion, our fiscal year 2021 plan also includes several strategies underway to improve our gross and operating margins by reducing our costs and creating operating efficiencies. Specifically, our fiscal year 2021 plan will include actions to improve pyramid efficiencies, reduce the use of sub-contractors, increase utilization, and reduce general and administrative expenses as a percentage of revenue.

Recent developments

On March 3, 2016, our Indian subsidiary, Virtusa Consulting Services Private Limited ("Virtusa India") acquired approximately 51.7% of the fully diluted shares of Polaris Consulting & Services Limited ("Polaris") for approximately $168.3 million in cash (the "Polaris Transaction") pursuant to a share purchase agreement dated as of November 5, 2015, by and among Virtusa India, Polaris and the promoter sellers named therein. Through a series of transactions, Virtusa increased its ownership to 100% for an additional aggregate consideration for $289.4 million, with $21.2 million being paid during the fiscal year ended March 31, 2020. During the three months ended March 31, 2020, Polaris merged with and into Virtusa India, with Virtusa India being the surviving entity.

In connection with the Polaris Transaction, we entered into an amendment with Citigroup Technology, Inc. ("Citi"), which became effective upon the closing of the Polaris Transaction, pursuant to which Virtusa was added as a party to the master services agreement with Citi and was appointed as a preferred vendor.

On December 31, 2019, in connection with a request for proposal ("RFP") and vendor consolidation process conducted by Citi, and as part of the Company being one of the vendors selected to continue preferred vendor status at Citi and have the opportunity to compete for additional vendor consolidation work, the Company and Citi entered into Amendment No. 5 to the Master Professional Services Agreement, by and between the Company and Citi, dated as of July 1, 2015, as amended (the "Amendment"). Pursuant to the Amendment, (i) Citi agreed to maintain the Company as a preferred vendor under the Resource Management Organization ("RMO") for the provision of IT services to Citi on an enterprise wide basis, (ii) the Company agreed to provide certain savings to Citi for the period from April 1, 2020 to December 31, 2020 ("Savings Period"), which savings can be achieved through productivity and efficiency measures and associated reduced spend; provided that if these productivity and efficiency measures do not achieve the projected savings amounts, the Company is required to provide certain discounts to Citi for the Savings Period to achieve the savings commitments; and (iii) to the extent that Citi awards the Company additional or new work in addition to the services covered by the RFP, the Company agreed to provide Citi with a certain percentage of savings (whether achieved through productivity measures, efficiencies, discounts or otherwise) as a condition to performing such services.

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Acts (the "Tax Act"). The Tax Act contains several key tax provisions that impacted the Company, including the reduction of the corporate income tax rate to 21% effective January 1, 2018. The Tax Act also includes a variety of other changes, such as a one-time repatriation tax on accumulated foreign earnings, a limitation on the tax deductibility of interest expense, acceleration of business asset expensing, and reduction in the amount of executive pay that could qualify as a tax deduction, among others. During the fiscal year ended March 31, 2019, the Company elected to treat several foreign entities as disregarded entities. The earnings of these subsidiaries will be subject to US taxation as well as local taxation with a corresponding foreign tax credit. (See Note 17 to the consolidated financial statements for further information).

In response to the COVID-19 pandemic, the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") was enacted on March 27, 2020 in the U.S. The Act includes both tax and nontax measures. The act restores the five-year net operating loss (NOL) carryback for losses arising in any taxable year beginning after 2017, but before 2021. Employers can defer payment for the employer portion of payroll taxes incurred between the date the CARES Act is enacted through December 31, 2020. The CARES Act increases the interest deduction limitation from 30% to 50% of adjusted taxable income (ATI) for tax years beginning in 2019 or 2020. (See Note 17 to the consolidated financial statements for further information).

COVID-19 and factors impacting our business and operating results

During the fourth quarter of fiscal 2020, the global pandemic related to COVID-19 presented significant challenges and adversely impacted our business and operating results. Our fiscal fourth quarter results were impacted by pandemic-related business interruptions and project delays, as well as elongated client decision making cycles. We are unable at this time to predict the full impact of COVID-19 on our operations, liquidity and financial results, and, depending on the magnitude and duration of the COVID-19 pandemic, such impact may be material. We expect to see an adverse impact to our revenue, earnings and cash flows due to the COVID-19 pandemic in the first quarter of fiscal 2021, which may also continue into the second quarter or beyond. Accordingly, current results and financial condition discussed herein may not be indicative of future operating results and trends. Refer to "Risk Factors" for further discussion of the impact of the COVID-19 pandemic on our business.

In response to the COVID-19 pandemic, Virtusa quickly initiated a rigorous plan to protect the health and safety of its global team members, while continuing to serve clients in a safe and sustainable manner. As the world faces unprecedented challenges caused by COVID-19, Virtusa is committed to doing everything possible to help our team members and clients manage through these turbulent times. Recent actions include:

- Enacted a Work-From-Home policy starting March 9, 2020. Today, 98% of Virtusa's global billable team members are enabled to work from home.

- Daily sessions between Virtusa's Crisis Management and Business Continuity teams to ensure employee safety and consistent client delivery.

- Proactively launched a series of new services and solutions tailored to help clients address the challenges created by COVID-19, including Hyper Distributed Agile Services, Agile Squads, and Release Assurance.

- Implemented a comprehensive cost reduction and efficiency plan across delivery, shared services and professional services.

- Proactively increased readily available cash by drawing down $84.0 million under its credit facility and moving $25.0 million from its India entity to the U.S. without tax implications.

For the fiscal year ending March 31, 2021, we expect the following factors, among others, to affect our business and our operating results:

- Demand from our clients, particularly for our digital transformation (DT) and cloud transformational (CT) solutions and outsourcing services
- Demand from our clients for solutions and services that drive cost efficiencies including cloud transformation, intelligent automation, and offshoring development.
- Ability to leverage our deep domain expertise to provide digital transformational solutions across our industry groups
- Adverse impacts on our clients' IT services spend from the economic impact of COVID-19
- Discretionary spending by our clients may be negatively affected by COVID-19 and related macroeconomic factors
- Uncertainty regarding regulatory changes, including potential regulatory changes with respect to immigration and taxes;
- Foreign currency volatility
- Impact of the COVID-19 pandemic and related economic conditions on our business and operations

For the fiscal year ending March 31, 2021, we plan to:

- Execute our three-pillar plan for increased profitable revenue growth, revenue and client diversification, and gross and operating margin expansion
- Invest in and develop intellectual property-based solutions to provide to our clients and increase non-linear revenue
- Continued revenue diversification by focusing on vertical, geographical and client portfolio diversification
- Align our practices to provide digital transformation services across our core industry groups such as BFSI, C&T and Media, Information and others ("M&I")
- Leverage our core engineering and domain expertise to delivery digital and cloud solutions to our clients
- Invest in domain led digital and cloud transformational solutions within core verticals like banking, healthcare, high-tech, insurance, media and telecommunications
- Continue our focus on client acquisition and expansion of revenue gained from existing clients, particularly with high-potential accounts
- Deepen our domain expertise in our service offerings related to enterprise mobile applications, social media, gamification, big data analytics, robotics process automation, and cloud computing
- Continue to invest in our talent base, including new onsite campus recruitment programs, training and talent engagement programs, with a focus on re-skilling and digital technologies

- Implement efficiency initiatives focused on improving pyramid efficiencies; reducing use of sub-contractors; increasing utilization; enhancing project profitability; and G&A cost leverage
- Deepen our solution and service offerings across the software development lifecycle, including application support and maintenance and independent software quality-assurance
- Focus on growing our business in Europe and Asia Pacific where we believe there are opportunities to gain market share
- Pursue opportunistic acquisitions that would improve or broaden our overall service delivery capabilities, domain expertise, and/or service offerings

Historically, we have also supplemented organic revenue growth with acquisitions. These acquisitions have focused on adding domain expertise, augmenting our geographic footprint, expanding our professional services teams and expanding our client base. For instance, during fiscal year ended March 31, 2020, we completed several tuck-in asset and business acquisitions, which expanded our relationship with our existing clients or supplemented existing service offerings. During the fiscal year ended March 31, 2018, we completed the acquisition of eTouch, which expands our digital solution offerings. During the fiscal year ended March 31, 2016, we acquired Polaris, which expanded our banking and financial services offerings and domain expertise as described above.

Financial overview

At March 31, 2020, we had 22,830 employees, or team members, an increase from 21,745 at March 31, 2019. For the fiscal year ended March 31, 2020, we had revenue of $1,312.3 million, and income from operations of $80.2 million. In our fiscal year ended March 31, 2020, our revenue increased by $64.4 million, or 5.2%, to $1,312.3 million, as compared to $1,247.9 million in our fiscal year ended March 31, 2019. Our net income increased from $11.8 million in our fiscal year ended March 31, 2019 to $43.6 million in our fiscal year ended March 31, 2020.

The key drivers of the increase in revenue in our fiscal year ended March 31, 2020, as compared to our fiscal year ended March 31, 2019, were as follows:

- Growth, led by several of our top ten clients, primarily in our C&T industry group, including revenue from several tuck-in asset and business acquisitions
- Revenue growth in North America

partially offset by:

- Decline in revenue from Europe, primarily driven by one of our large European banking clients
- Decrease in revenue in our banking and insurance industry group

The key drivers of our increase in net income in our fiscal year ended March 31, 2020, as compared to our fiscal year ended March 31, 2019, were as follows:

- Higher revenue, particularly in our top ten clients, primarily in our C&T industry group, including revenue from several tuck-in asset and business acquisitions
- Decrease in operating expense as a percentage of revenue, reflecting a larger revenue base and cost reduction initiatives
- Decrease in impairment related to land in India held for sale
- Significant non-recurring tax benefit related to our merger of Polaris with and into Virtusa

partially offset by:

- Substantial increase in foreign currency transaction losses, primarily related to the revaluation of Indian rupee denominated intercompany note, primarily due to substantial depreciation of the Indian rupee against the U.S. dollar.

- Increase in interest expense related to an increase in our outstanding debt under our credit facility

High repeat business and client concentration are common in our industry. During the fiscal year ended March 31, 2020, 2019 and 2018, 97%, 91% and 96%, respectively, of our revenue was derived from clients who had been using our services for more than one year, including clients acquired from eTouch Systems Corp. in March 2018. Accordingly, our global account management and service delivery teams focus on expanding client relationships and converting new engagements to long-term relationships to generate repeat revenue and expand revenue streams from existing clients. We also have a dedicated business development team focused on generating engagements with new clients to continue to expand our client base and, over time, reduce client concentration.

For the fiscal years ended March 31, 2020, 2019 and 2018, we generated 56%, 54%, and 56%, respectively, of revenue from application outsourcing and 44%, 46% and 44%, respectively, of revenue from consulting services. We perform our services under both time-and-materials and fixed-price contracts. Revenue from fixed-price contracts remained unchanged at 41% of total revenue for the fiscal years ended March 31, 2020, 2019 and 2018. The revenue earned from fixed-price contracts reflects our clients' preferences.

At March 31, 2020, we had cash and cash equivalents, short-term and long-term investments, which is a non-GAAP measure, of $300.6 million, which includes a draw-down of $84.0 million in March 2020 from our line of credit to supplement our liquidity and working capital. At March 31, 2019, we had cash and cash equivalents, short-term and long-term investments, which is a non-GAAP measure, of $223.1 million.

As an IT services company, our revenue growth has been, and will continue to be, highly dependent on our ability to attract, develop, motivate and retain skilled IT professionals. For the fiscal year ended March 31, 2020, we finished the fiscal year with a total headcount of 22,830 as compared with a total headcount of 21,745 for the fiscal year ended March 31, 2019, which reflects voluntary and involuntary attrition. There is intense competition for IT professionals with the skills necessary to provide the type of services we offer. We closely monitor our overall attrition rates and patterns to ensure our people management strategy aligns with our growth objectives. For the last twelve months ended March 31, 2020, our attrition rate reflects voluntary attrition of 16.2% and involuntary attrition of 9.3%. The majority of our attrition occurs in India and Sri Lanka, and is weighted towards the more junior members of our staff. In response to higher attrition and as part of our retention strategies, we have experienced increases in compensation and benefit costs, which may continue in the future. However, we try to absorb such cost increases through price increases or cost management strategies such as managing discretionary costs, the mix of professional staff and utilization levels and achieving other operating efficiencies. If our attrition rate increases or is sustained at higher levels, our growth may slow and our cost of attracting and retaining IT professionals could increase.

We maintain an 18 month rolling and layering hedging program, which we believe has been effective since inception at reducing the impact of fluctuations in the Indian rupee on our operating results and there is no assurance that this hedging program will continue to be effective. These hedges may also cause us to forego benefits of a positive currency fluctuation, especially given the volatility of the Indian rupee . In addition, to the extent that these hedges cease to qualify for hedge accounting, any gains or losses associated with those hedges would be recorded in other comprehensive income until the occurrence of the underlying transaction and at that time the gains or losses would be recognized in the consolidated statement of income in other income (expense).

We monitor a number of operating metrics to manage and assess our earnings, including:

- *Days sales outstanding ("DSO")* is a measure of the number of days our accounts receivable are outstanding based upon the last 90 days of revenue activity, which indicates the timeliness of our cash collection from clients and our overall credit terms to our clients. At March 31, 2020, our DSO was 78 days compared to

76 days at March 31, 2019. As a result of the COVID-19 pandemic, our clients are delaying payments and/or requesting longer payment terms in our fiscal year ending March 31, 2021.

- *Realized billing rates* are the rates we charge our clients for our services, which reflect the value our clients place on our services, market competition and the geographic location in which we perform our services. Our realized billing rates have remained relatively consistent subject to foreign currency exchange fluctuation for our fiscal year ended March 31, 2020 as compared to our fiscal year ended March 31, 2019. Any increase in realized billing rates is a result of our ability to successfully preserve or increase our billing rates with existing and/or new clients. In connection with the COVID-19 pandemic, our clients are increasingly requesting discounts to our rates and other pricing concessions for the fiscal year ending March 31, 2021, which may result in lower realized billing rates in the future.

- *Average cost per IT professional* is the sum of team member salaries, including variable compensation, and fringe benefits, divided by the average number of IT professionals during the period. We experienced an increase in our average cost per IT professional in our fiscal year ended March 31, 2020 as compared to our fiscal year ended March 31, 2019, primarily driven by competition and mix of resources.

- *Utilization rate* indicates the efficiency of our billable IT resources. Our utilization rate is defined as the number of billable hours in a given period divided by the total number of available hours of our IT professionals in a given period, excluding trainees. We track our utilization rates to measure revenue potential and gross profit margins. Management's target for the utilization rate is in the low 80% range. Our utilization rates were 81%, 83% and 83% for the fiscal years ended March 31, 2020, 2019 and 2018, respectively. The utilization rate is affected by the rate of quarterly sequential revenue growth, as well as ability to staff existing IT professionals on billable engagements. In growth periods, utilization tends to rise as more resources are deployed to meet rising demand. Utilization rates above the targeted range may also indicate that there are insufficient IT professionals to staff existing or future engagements, which may result in loss of revenue or inability to service client engagements.

- *Attrition rate* is the ratio of terminated team members during the latest twelve months to the total number of team members at the end of such period, which measures team member turnover. Increased voluntary attrition rates result in increased hiring, training and on-boarding costs and productivity losses, which may adversely affect our revenue, gross margin and operating profit margin. For the last twelve months ended March 31, 2020, our attrition rate was 25.5%, which reflects voluntary attrition of 16.2% and involuntary attrition of 9.3%. Our attrition rate for the fiscal year ended March 31, 2019 was 25.5%, which reflects voluntary attrition of 16.4% and involuntary attrition of 9.1%.

- *Operating expense efficiency* is a measure of operating expenses as a percentage of revenue. If we continue to successfully grow our revenue, we anticipate that operating expenses will decrease as a percentage of revenue as such expenses are absorbed across a larger revenue base. In the near term, however, any operating expense efficiency may decline if our revenue declines.

- *Effective tax rate* is our worldwide tax expense as a percentage of our consolidated net income before tax, which measures the impact of income taxes worldwide on our operations and net income. We monitor and assess our effective tax rate to evaluate whether our tax structure is competitive as compared to our industry. Our effective tax rate was 0.6% and 53.6% for the fiscal years ended March 31, 2020 and 2019, respectively. Our effective tax rate decreased primarily due to the merger of our Indian operations. The merger permits previous nondeductible items to be deducted in computing taxable income. As a result of the merger, the Company filed a refund claim of $11.4 million for the fiscal year ended March 31, 2019 and realized a benefit in the U.S. for foreign tax credits of $14.3 million. The tax benefit is offset by an increase in the valuation allowance and increased income from operations during the fiscal year ended March 31, 2020. Increases in our effective tax rate or a high effective tax rate will also have a negative effect on our earnings in future periods.

- *Onsite-to-offshore mix* is the measurement of hours billed by resources located offshore to hours billed by our team members onsite over a defined period. We strive to manage both fixed-price contracts and time-and-materials engagements to a targeted 30% to 70% onsite- to-offshore service delivery team mix, although such delivery mix may be impacted by several factors including our new and existing client delivery requirements as well as the impact of any acquisitions.

Sources of revenue

We generate revenue by providing IT services to our clients located primarily in North America and Europe. We have historically earned, and believe that over the next few fiscal years we will continue to earn a significant portion of our revenue from a limited number of clients. For the fiscal year ended March 31, 2020, collectively, our five largest and ten largest clients accounted for 41% and 56% of our revenue, respectively. Our largest client accounted for 16% of our revenue for the fiscal year ended March 31, 2020. The loss of any one of our major clients could reduce our revenue and operating profit and harm our reputation in the industry. During the fiscal year ended March 31, 2020, 74% of our revenue was generated in North America, 17% in Europe and 9% in rest of the world. We provide IT services on either a time-and-materials or a fixed-price basis. For the fiscal year ended March 31, 2020, the percentage of revenue from time-and-materials and fixed-price contracts was 59% and 41%, respectively.

Our North America revenue for the fiscal year ended March 31, 2020 increased by 9.5%, or $84.0 million, to $968.1 million, or 74% of total revenue, from $884.1 million, or 71% of total revenue in the fiscal year ended March 31, 2019. The increase in North America revenue for the fiscal year ended March 31, 2020 was primarily due to the increase in revenue from clients in the C&T industry group, including revenue from several tuck-in asset and business acquisitions. Our European revenue for the fiscal year ended March 31, 2020 decreased by 11.8%, or $31.0 million, to $231.0 million, or 17% of total revenue, from $262.0 million, or 21% of total revenue in the fiscal year ended March 31, 2019. The decrease in European revenue for the fiscal year ended March 31, 2020 was primarily due to a decline in revenue from one of our large banking clients.

Revenue from services provided on a time-and-materials basis is derived from the number of billable hours in a period multiplied by the contractual rates at which we bill our clients. Revenue from services provided on a fixed-price basis is recognized as efforts are expended generally on an input method. Revenue also includes reimbursements of travel and out-of-pocket expenses with equivalent amounts of expense recorded in costs of revenue. Most of our client contracts, including those that are on a fixed-price basis, can be terminated by our clients with or without cause on 30 to 90 days prior written notice. All fees for services provided by us through the date of cancellation are generally due and payable under the contract terms.

Our unit pricing is driven by business need, delivery timeframes, complexity of the engagement, operating differences (such as onsite/offshore ratio), competitive environment and engagement size or volume. As a pricing strategy to encourage clients to increase the volume of services that we provide to them, we, on occasion may offer volume discounts or longer payment terms. We manage our business carefully to protect our account margins and our overall profit margins. We find that our clients generally purchase on the basis of total value, rather than on minimum cost, considering all of the factors listed above.

While we are subject to the effects of overall market pricing pressure, we believe that there is a fairly broad range of pricing offered by different competitors for each service we provide. We believe that no one competitor, or set of competitors, sets pricing in our industry. We find that our unit pricing, as a result of our global delivery model, is generally competitive with other firms who operate with a predominately offshore operating model.

The proportion of work performed at our offshore facilities and at onsite client locations varies from period-to-period. Effort, in terms of the percentage of hours billed to clients by onsite resources, was 28% of total hours billed in each of the fiscal years ended March 31, 2020 and 2019, while the revenue from resources located onsite and offshore accounted for 60% and 40% respectively in the fiscal year ended March 31, 2020 and 59% and 41% respectively during the fiscal year ended March 31, 2019. We charge higher rates and incur higher compensation costs and other expenses for work performed at client locations in the United States, the United Kingdom and Europe as compared to work performed at our global delivery centers in Asia, particularly our largest centers in India and Sri Lanka. Services performed at client locations or at our offices in the United States or the United Kingdom generate higher revenue per-capita at lower gross margins than similar services performed at our global delivery centers in Asia, particularly our largest centers in India and Sri Lanka. We manage to a targeted 30% to 70% onsite-to-offshore service delivery mix, although such delivery mix may be impacted by several factors including our new and existing client delivery requirements as well as the impact of any acquisitions.

Costs of revenue and gross profit

Costs of revenue consist principally of payroll and related fringe benefits, reimbursable and non-reimbursable costs, immigration-related expenses, fees for subcontractors working on client engagements and share-based compensation expense for IT professionals including account management personnel. Wage costs in India and Sri Lanka have historically been significantly lower than wage costs in the United States, Europe and rest of the world for comparably-skilled IT professionals. However, wages in India and Sri Lanka are increasing in local currency, which will result in increased costs for IT professionals, particularly project managers and other mid-level professionals. We may need to increase the levels of our team member compensation more rapidly than in the past to remain competitive without the ability to make corresponding increases to our billing rates. Compensation increases may reduce our profit margins, make us less competitive in pricing potential projects against those companies with lower cost resources and otherwise harm our business, operating results and financial condition. We deploy a campus hiring philosophy and encourage internal promotions to minimize the effects of wage inflation pressure and recruiting costs. Additionally, any material appreciation in the Indian rupee or Sri Lankan rupee against the U.S. dollar or U.K. pound sterling could have a material adverse impact on our cost of services.

Our revenue and gross profit are also affected by our ability to efficiently manage and utilize our IT professionals and fluctuations in foreign currency exchange rates. We define utilization rate as the total number of days billed in a given period divided by the total available days of our IT professionals during that same period, excluding trainees. We manage employee utilization by continually monitoring project requirements and timetables to efficiently staff our projects and meet our clients' needs. The number of IT professionals assigned to a project will vary according to the size, complexity, duration and demands of the project. An unanticipated termination or reduction of a significant project could cause us to experience a higher than expected number of unassigned IT professionals, thereby lowering our utilization rate.

Although we have adopted a cash flow hedging program to minimize the effect of the Indian rupee movement on our financial condition, particularly our costs of revenue, these hedges may not be effective or may cause us to forego benefits, especially given the volatility of these currencies. In addition, to the extent that these hedges do not qualify for hedge accounting, any gains or losses associated with those hedges would be recorded in other comprehensive income until the occurrence of the underlying transaction and at that time the gains or losses would be recognized in the consolidated statement of income in other income (expense).

Operating expenses

Operating expenses consist primarily of payroll and related fringe benefits, commissions, selling and marketing as well as promotion, communications, management, finance, administrative, occupancy, share-based compensation and depreciation and amortization expenses. In the fiscal years ended March 31, 2020, 2019, and 2018, we invested in all aspects of our business, including sales, marketing, IT infrastructure, facilities, human resources programs and financial operations. Additionally, any material appreciation in the Indian rupee or Sri Lankan rupee against the U.S. dollar or U.K. pound sterling could have a material adverse impact on our cost of operating expenses.

Other income (expense)

Other income (expense) includes interest income, interest expense, investment gains and losses, foreign currency transaction gains and losses and disposal of fixed assets. We generate interest income by investing in time deposits, money market instruments, short-term investments and long-term investments. We incur interest expense primarily from our long-term debt and amortization of our debt issuance cost. The functional currencies of our subsidiaries are their local currencies, except for Hungary which operates in the euro and certain Netherlands entities which operate in the U.S. dollar. Foreign currency gains and losses are generated primarily by fluctuations of the Indian rupee, Sri Lankan rupee, Swedish

Krona (“SEK”), euro, U.K. pound sterling and the Singapore dollar, against the U.S. dollar on intercompany transactions. This includes fluctuations on an Indian rupee denominated intercompany note in a U.S. dollar functional currency entity in the Netherlands that was put in place as part of the structuring of the Polaris Transaction. At March 31, 2020, the approximate value of the intercompany note was $267.3 million (Indian rupee 20,000 million). We place our cash in liquid investments at highly-rated financial institutions, as well as in money market funds, fixed income securities, U. S. dollar denominated corporate bonds, agency bonds and government bonds based on our investment policy approved by our audit committee and board of directors. We believe that our credit policies reflect normal industry terms and business risk.

Income tax expense

Our net income is subject to income tax in those countries in which we perform services and have operations, including the United States, the United Kingdom, the Netherlands, India, Sri Lanka, Germany, Singapore, Austria, Hungary, Malaysia and Sweden. In the fiscal year ended March 31, 2020, our effective tax rate was impacted by the Tax Act, the mix of income by jurisdiction, the impact of adopting the new tax regime offered by the Indian government and certain deductions granted to large IT service providers in Sri Lanka and the CARES Act. Historically, we have benefited from long-term income tax holiday arrangements in both India and Sri Lanka that are offered to certain export-oriented IT services firms. As a result of these tax holiday arrangements, our worldwide profit has been subject to a relatively low effective tax rate as compared to the statutory rates in the countries in which we generate the substantial portion of our revenue. The effect of the income tax holidays in India and Sri Lanka decreased our income tax expense in the fiscal years ended March 31, 2020 and 2019 by $0.1 million and $5.8 million, respectively. Our tax expense decreased by $20.2 million in the fiscal year ended March 31, 2020 compared to our tax expense for our fiscal year ended March 31, 2019. The decrease in the tax expense and effective tax rate for the fiscal year ended March 31, 2020 was primarily due to non-recurring tax benefits resulting from merger of our Indian operations during the fiscal year ended March 31, 2020.

Our effective tax rate was 0.6% and 53.6% for each of the fiscal years ended March 31, 2020 and 2019 respectively. Our effective tax rate in future periods will be affected by the Tax Act, CARES Act, the geographic distribution of our earnings and increased U.S. taxable income due to restricting activities and the availability of foreign tax credits to offset U.S. tax expense. (See Note 17 to the consolidated financial statements for further information).

Results of operations

Fiscal year ended March 31, 2020 compared to fiscal year ended March 31, 2019

The following table presents an overview of our results of operations for the fiscal years ended March 31, 2020 and 2019:

	Fiscal Year Ended March 31, 2020	Fiscal Year Ended March 31, 2019	$ Change	% Change
	(Dollars in thousands)			
Revenue	$ 1,312,283	$ 1,247,863	$ 64,420	5.2 %
Costs of revenue	959,143	884,652	74,491	8.4 %
Gross profit	353,140	363,211	(10,071)	(2.8)%
Operating expenses	272,928	292,943	(20,015)	(6.8)%
Income from operations	80,212	70,268	9,944	14.2 %
Other income (expense)	(31,551)	(32,104)	553	(1.7)%
Income before income tax expense	48,661	38,164	10,497	27.5 %
Income tax expense	309	20,473	(20,164)	(98.5)%
Net income	48,352	17,691	30,661	173.3 %
Less: net income attributable to noncontrolling interests, net of tax	450	1,545	(1,095)	(70.9)%
Net income available to Virtusa stockholders	47,902	16,146	31,756	196.7 %
Less: Series A Convertible Preferred Stock dividends and accretion	4,350	4,350	—	— %
Net income attributable to Virtusa common stockholders	$ 43,552	$ 11,796	$ 31,756	269.2 %

Revenue

Revenue increased by 5.2%, or $64.4 million, from $1,247.9 million during the fiscal year ended March 31, 2019 to $1,312.3 million in the fiscal year ended March 31, 2020. The increase in revenue was primarily driven by an increase in revenue from several of our top ten clients, including revenue from several tuck-in asset and business acquisitions of $45.4 million, partially offset by a decline in our banking and insurance industry, including one of our large European banking clients. Revenue from North American clients in the fiscal year ended March 31, 2020 increased by $84.0 million, or 9.5%, as compared to the fiscal year ended March 31, 2019, particularly due to the increase in revenue from clients in the C&T industry group, including revenue from several tuck-in asset and business acquisitions. Revenue from European clients in the fiscal year ended March 31, 2020 decreased by $31.0 million, or 11.8%, as compared to the fiscal year ended March 31, 2019, primarily due to a decline in revenue from one of our large banking clients. We had 221 active clients at March 31, 2020, as compared to 216 active clients at March 31, 2019.

Costs of revenue

Costs of revenue increased from $884.7 million in the fiscal year ended March 31, 2019 to $959.1 million in the fiscal year ended March 31, 2020, an increase of $74.5 million, 8.4%. The increase in cost of revenue was primarily due to an increase in the number of IT professionals and related compensation and benefit costs of $23.8 million. The increased costs of revenue were also due to an increase in subcontractor costs of $57.5 million partially offset by decrease in travel costs of $8.0 million. At March 31, 2020, we had 20,606 IT professionals as compared to 19,502 at March 31, 2019. As a percentage of revenue, cost of revenue increased from 70.9% for the fiscal year ended March 31, 2019 to 73.1% for fiscal year ended March 31, 2020.

Gross profit

Our gross profit decreased by $10.1 million or 2.8%, to $353.1 million for the fiscal year ended March 31, 2020 as compared to $363.2 million in the fiscal year ended March 31, 2019, primarily due to increase in subcontractor costs and higher onsite effort, partially offset by higher revenue. As a percentage of revenue, for the fiscal year ended March 31, 2020 compared to the fiscal year ended March 31, 2019, gross margin decreased from 29.1% to 26.9% primarily due to higher onsite effort and subcontractor costs partially offset by higher revenue.

Operating expenses

Operating expenses decreased from $292.9 million in the fiscal year ended March 31, 2019 to $272.9 million in the fiscal year ended March 31, 2020, a decrease of $20.0 million, or 6.8%. The decrease in operating expenses was primarily due to a decrease of $23.7 million in compensation expenses, including stock and variable compensation expense. The decrease in operating costs was also due to a decrease in travel costs of $3.5 million. The decrease is partially offset by increase in acquisition related expense of $3.5 million and an increase in facilities cost of $3.1 million. As a percentage of revenue, our operating expenses decreased from 23.5% in the fiscal year ended March 31, 2019 to 20.8% in the fiscal year ended March 31, 2020.

Income from operations

Income from operations increased by $9.9 million or 14.2%, from $70.3 million in the fiscal year ended March 31, 2019 to $80.2 million in the fiscal year ended March 31, 2020. As a percentage of revenue, income from operations increased from 5.6% in the fiscal year ended March 31, 2019 to 6.1% in the fiscal year ended March 31, 2020, primarily due to higher revenue and decrease in operating expense partially offset by higher onsite effort and subcontractor costs.

Other (income) expense

Other expense decreased by $0.6 million, from $32.1 million in the fiscal year ended March 31, 2019 to $31.5 million in the fiscal year ended March 31, 2020, primarily due to an impairment related to land in India, which was recorded in the fiscal year ended March 31, 2019, partially offset by an increase in net foreign currency transaction losses related to the revaluation of a $267.3 million Indian rupee denominated intercompany note, primarily due to a substantial depreciation of the Indian rupee against the U.S. dollar and an increase in interest expense related to our credit facility.

Income tax expense

Income tax expense decreased by $20.2 million, from $20.5 million in the fiscal year ended March 31, 2019 to $0.3 million in the fiscal year ended March 31, 2020. Our effective tax rate decreased from 53.6% for the fiscal year ended March 31, 2019 to 0.6% for the fiscal year ended March 31, 2020. The decrease in tax expense and effective tax rate for the fiscal year ended March 31, 2020, was primarily due to the merger of our Indian operations. The merger permits previous nondeductible items to be deducted in computing taxable income. As a result of the merger, the Company filed a refund claim of $11.4 million for the fiscal year ended March 31, 2019 and realized a benefit in the U.S. for foreign tax credits of $14.3 million. The tax benefit is offset by an increase in the valuation allowance and increased income from operations during the fiscal year ended March 31, 2020.

Noncontrolling interests

In connection with the Polaris Consulting & Services Limited (“Polaris”) acquisition, for the fiscal year ended March 31, 2020, we recorded a noncontrolling interest of $0.5 million representing a 2.3% share of profits of Polaris held by parties other than Virtusa. As of March 31, 2020, we own 100% of Polaris shares.

Net income available to Virtusa stockholders

Net income available to Virtusa stockholders increased by 196.7%, from a net income of $16.1 million in the fiscal year ended March 31, 2019 to net income of $47.9 million in the fiscal year ended March 31, 2020. The increase in net income in the fiscal year ended March 31, 2020 was primarily due to higher revenue, an increase in income from operations and a decrease in income tax expense.

Series A Convertible Preferred Stock dividends and accretion

In connection with the preferred stock financing transaction with the Orogen Group, we accrued dividends and accreted issuance costs of $4.4 million at a rate of 3.875% per annum during the fiscal year ended March 31, 2020.

Net income attributable to Virtusa common stockholders

Net income available to Virtusa common stockholders increased by 269.2%, from a net income of $11.8 million in fiscal year ended March 31, 2019 to a net income of $43.6 million in the fiscal year ended March 31, 2020. The increase in net income in the fiscal year ended March 31, 2020 was primarily due to higher revenue, an increase in income from operations and a decrease in income tax expense.

Non-GAAP Measures

We include certain non-GAAP financial measures as defined by Regulation G by the Securities and Exchange Commission. These non-GAAP financial measures are not based on any comprehensive set of accounting rules or principles and should not be considered a substitute for, or superior to, financial measures calculated in accordance with GAAP, and may be different from non-GAAP measures used by other companies. In addition, these non-GAAP measures should be read in conjunction with our financial statements prepared in accordance with GAAP.

We consider the total measure of cash, cash equivalents, short-term and long-term investments to be an important indicator of our overall liquidity. All of our investments are classified as either equity or available-for-sale debt securities, including our long-term investments which consist of fixed income securities, including government agency bonds and corporate bonds, which meet the credit rating and diversification requirements of our investment policy as approved by our audit committee and board of directors.

The following table provides the reconciliation from cash and cash equivalents to total cash and cash equivalents, short-term investments and long-term investments:

	At March 31, 2020	At March 31, 2019	At March 31, 2018
Cash and cash equivalents	$ 290,837	$ 189,676	$ 194,897
Short-term investments	9,785	33,138	45,900
Long-term investments	4	322	4,140
Total cash and cash equivalents, short-term and long-term investments	$ 300,626	$ 223,136	$ 244,937

We believe the following financial measures will provide additional insights to measure the operational performance of our business.

- We present consolidated statements of income measures that exclude, when applicable, stock-based compensation expense, acquisition-related charges, restructuring charges, foreign currency transaction gains and losses, impairment of investments, impairment of long-lived assets, non-recurring third party financing costs, the tax impact of dividends received from foreign subsidiaries, the initial impact of our election to treat certain subsidiaries as disregarded entities for U.S. tax purposes, the impact from the U.S. government enacted comprehensive tax legislation (“Tax Act”) and other non-recurring tax items to provide further insights into the comparison of our operating results among periods.

The following table presents a reconciliation of each non-GAAP financial measure to the most comparable GAAP measure for the years ended March 31:

	Fiscal Year Ended March 31,		
	2020	2019	2018
	(in thousands, except share and per share amounts)		
GAAP income from operations	$ 80,212	$ 70,268	$ 46,387
Add: Stock-based compensation expense	15,716	29,056	27,411
Add: Acquisition-related charges and restructuring charges (1)	17,915	23,904	13,278
Non-GAAP income from operations	$ 113,843	$ 123,228	$ 87,076
GAAP operating margin	6.1 %	5.6 %	4.5 %
Effect of above adjustments to income from operations	2.6 %	4.3 %	4.0 %
Non-GAAP operating margin	8.7 %	9.9 %	8.5 %
GAAP net income (loss) available to Virtusa common stockholders	$ 43,552	$ 11,796	$ (2,709)
Add: Stock-based compensation expense	15,716	29,056	27,411
Add: Acquisition-related charges and restructuring charges (1)	18,182	25,710	13,346
Add: Non-recurring third party financing costs (9)	—	—	701
Add: Impairment of investment (10)	184	1,411	—
Add: Other impairment charge (11)	—	3,955	—
Add: Foreign currency transaction losses (2)	15,999	13,130	3,543
Add: Impact from the Tax Act (8)	—	(1,628)	22,724
Tax adjustments (3)	(26,080)	(16,365)	(14,037)
Less: Noncontrolling interest, net of taxes (4)	(44)	(68)	(1,469)
Non-GAAP net income available to Virtusa common stockholders	$ 67,509	$ 66,997	$ 49,510
GAAP diluted earnings (loss) per share (6)	$ 1.42	$ 0.38	$ (0.09)
Effect of stock-based compensation expense (7)	0.47	0.86	0.85
Effect of acquisition-related charges and restructuring charges (1) (7)	0.54	0.77	0.41
Effect of non-recurring third party financing costs (9) (7)	—	—	0.02
Effect of impairment of investment (10) (7)	—	0.04	—
Effect of other impairment charge (11) (7)	—	0.12	—
Effect of foreign currency transaction losses (2) (7)	0.48	0.39	0.11
Effect of impact from the Tax Act (7) (8)	—	(0.05)	0.70
Tax adjustments (3) (7)	(0.77)	(0.49)	(0.43)
Effect of noncontrolling interest (4) (7)	—	—	(0.05)
Effect of dividend on Series A Convertible Preferred Stock (6) (7)	0.13	0.13	0.10
Effect of change in dilutive shares for non-GAAP (6)	(0.13)	(0.03)	0.01
Non-GAAP diluted earnings per share (5) (7)	$ 2.14	$ 2.12	$ 1.63

(1) Acquisition-related charges include, when applicable, amortization of purchased intangibles, external deal costs, transaction-related professional fees, acquisition-related retention bonuses, changes in the fair value of contingent consideration liabilities, accreted interest related to deferred acquisition payments, charges for impairment of acquired intangible assets and other acquisition-related costs including integration expenses consisting of outside professional and consulting services and direct and incremental travel costs. Restructuring charges, when applicable, include termination benefits, facility exit costs as well as certain professional fees related to restructuring. The following table provides the details of the acquisition-related charges and restructuring charges:

	Fiscal Year Ended March 31,		
	2020	2019	2018
Amortization of intangible assets	$ 14,675	$ 11,394	$ 10,089
Acquisition and integration costs	3,240	12,101	1,821
Restructuring charges	—	409	1,368
Acquisition-related charges included in costs of revenue and operating expense	17,915	23,904	13,278
Accreted interest related to deferred acquisition payments	267	1,806	68
Total acquisition-related charges and restructuring charges	$ 18,182	$ 25,710	$ 13,346

(2) Foreign currency transaction gains and losses are inclusive of gains and losses on related foreign exchange forward contracts not designated as hedging instruments for accounting purposes.

(3) Tax adjustments reflect the tax effect of the non-GAAP adjustments using the tax rates at which these adjustments are expected to be realized for the respective periods, excluding the initial impact of our election to treat certain subsidiaries as disregarded entities for U.S. tax purposes. Tax adjustments also assumes application of foreign tax credit benefits in the United States.

(4) Noncontrolling interest represents the minority shareholders interest of Polaris.

(5) Non-GAAP diluted earnings per share is subject to rounding.

(6) During the fiscal year ended March 31, 2020 and 2019, all of the 3,000,000 shares of Series A Convertible Preferred Stock were excluded from the calculations of GAAP diluted earnings per share as their effect would have been anti-dilutive using the if-converted method.

The following table provides the non-GAAP net income available to Virtusa common stockholders and non-GAAP dilutive weighted average shares outstanding using if-converted method to calculate the non-GAAP diluted earnings per share for the fiscal year ended March 31, 2020, 2019 and 2018:

	Fiscal Year Ended March 31,		
	2020	2019	2018
Non-GAAP net income available to Virtusa common stockholders	$ 67,509	$ 66,997	$ 49,510
Add: Dividends and accretion on Series A Convertible Preferred Stock	4,350	4,350	3,262
Non-GAAP net income available to Virtusa common stockholders and assumed conversion	$ 71,859	$ 71,347	$ 52,772
GAAP dilutive weighted average shares outstanding	30,654,527	30,659,654	29,397,350
Add: Incremental dilutive effect of employee stock options and unvested restricted stock awards and restricted stock units	—	—	728,820
Add: Incremental effect of Series A Convertible Preferred Stock as converted	3,000,000	3,000,000	2,250,000
Non-GAAP dilutive weighted average shares outstanding	33,654,527	33,659,654	32,376,170

(7) To the extent the Series A Convertible Preferred Stock is dilutive using the if-converted method, the Series A Convertible Preferred Stock is included in the weighted average shares outstanding to determine non-GAAP diluted earnings per share.

(8) Impact from the U.S. government enacted comprehensive tax legislation (“Tax Act”).

(9) Non-recurring third party financing costs related to the new credit facility.

(10) Other-than-temporary impairment of available-for-sale securities recognized in earnings.

(11) Impairment related to a long-lived asset

Liquidity and capital resources

We have financed our operations primarily from sales of shares of common stock, cash from operations, debt financing and from sales of shares of Series A Convertible Preferred Stock. Our ability to expand and grow our business to execute our strategic objectives will depend on many factors, including our willingness to make opportunistic acquisitions, strategic investments and partnerships.

In response to the COVID-19 outbreak, which had and is having a negative business impact on our operations, in March 2020, we drew down approximately $84.0 million dollars from our revolving credit facility to supplement our liquidity and working capital in light of the impact of the COVID-19 pandemic on our clients and our results of operations. For additional liquidity, on May 27, 2020, we entered into Amendment No. 3 to Amended and Restated Credit Agreement with JPMorgan Chase Bank, N.A. (the " Administrative Agent") and the lenders party thereto (the " Third Credit Agreement Amendment"), which amends the Company's Amended and Restated Credit Agreement, dated as of February 6, 2018, with such parties (as amended, "Credit Agreement") to, among other things, (i) provide for $62.5 million in incremental 364-day delayed draw term loans (the "New Delayed Draw Term Loans"), which can be drawn down up to three times on or before September 27, 2020 and (ii) extend out the debt to EBITDA ratio covenant step down by two quarters such that the leverage covenant remains at 3.25:1.00 through December 31, 2020. The Company can use the proceeds of the New Delayed Draw Term Loans to fund general working capital and refinance existing indebtedness under the credit facility. On May 27, 2020, the Company prepaid $55.0 million on its existing revolving facility as a condition to closing the Third Credit Agreement Amendment.

At March 31, 2020, we had approximately $300.6 million of cash, cash equivalents, short term investments and long term investments, of which we hold approximately $194.8 million of cash, cash equivalents, short term investments and long-term investments in non-U.S. locations, particularly in India, Sri Lanka and the United Kingdom. Cash in these non-U.S. locations may not otherwise be available for potential investments or operations in the United States or certain other geographies where needed, as we have stated that this cash is indefinitely reinvested in these non-U.S. locations. If our intent were to change and we elected to repatriate this cash back to the United States, or this cash was deemed no longer permanently invested, this cash could be subject to additional taxes and the change in such intent could have an adverse effect on our cash balances as well as our overall statement of income. Notwithstanding these limitations, in April 2020, we were able to move $25.0 million of cash from our India entity to our U.S. entity, without tax implication, to support our U.S. legal entity's liquidity needs. Due to various methods by which cash could be repatriated to the United States in the future, the amount of taxes attributable to the cash is dependent on circumstances existing if and when remittance occurs. In addition, some countries could have restrictions on the movement and exchange of foreign currencies which could further limit our ability to use such funds for global operations or capital or other strategic investments. Due to the various methods by which such earnings could be repatriated in the future, it is not practicable to determine the amount of applicable taxes that would result from such repatriation.

We believe that our sources of funding will be sufficient to satisfy our currently anticipated cash requirements including capital expenditures, working capital requirements, potential acquisitions, strategic investments and other liquidity requirements through at least the next 12 months.

To the extent that existing cash from operations is insufficient to fund our working capital needs and other cash obligations, we may raise additional funds through debt or equity financing. We cannot give any assurance that additional financing, if required, will be available on favorable terms or at all.

We do not believe the deemed repatriation tax on accumulated foreign earnings related to the Tax Act will have a significant impact on our cash flows in any individual fiscal year.

During the fiscal year ended March 31, 2020, we completed multiple tuck-in asset and business acquisitions for an aggregate purchase price consideration of $49.6 million, with an additional earn-out consideration of $38.7 million, which, if earned, would be payable over the next two fiscal years. During the fiscal year ended March 31, 2020, we paid $38.7 million in purchase price and $3.8 million in earn-out consideration related to these tuck-in acquisitions.

On October 15, 2019, we entered into Amendment No. 2 to Amended and Restated Credit Agreement with JPMorgan Chase Bank, N.A. (the "Administrative Agent") and the lenders party thereto (the "Second Credit Agreement Amendment"), which amends the Company's Amended and Restated Credit Agreement, dated as of February 6, 2018, with such parties (as amended the "Credit Agreement") to, among other things, increase the revolving commitments available to us under the Credit Agreement from $200.0 million to $275.0 million, reduce the interest rate margins applicable to term loans and revolving loans outstanding under the Credit Agreement from time to time and reduce the commitment fee payable by us to the lenders in respect of unused revolving commitments under the Credit Agreement. We executed the Second Credit Agreement Amendment to provide additional lending capacity which we used to fund the completion of the Polaris delisting transaction, as well as to provide excess lending capacity in the event of future opportunistic, strategic, investment opportunities. The Second Credit Agreement Amendment contains customary terms for amendments of this type, including representations, warranties and covenants. Interest under the credit facility accrues at a rate per annum of LIBOR plus 2.75%, subject to step-downs based on the Company's ratio of debt to EBITDA. For the fiscal year ending March 31, 2021, the Company is required to make principal payments of $4.3 million per quarter. The term of the Credit Agreement is five years ending February 6, 2023. During the fiscal year ended March 31, 2020, the Company drew down $145.0 million from the credit facility, inclusive of $84.0 million drawn in the three months ended March 31, 2020 to supplement our liquidity and working capital in light of the uncertainty resulting from the COVID-19 pandemic. Earlier draws in the fiscal year March 31, 2020 were used to fund the eTouch 18-month anniversary payment of $17.5 million and to fund opportunistic, strategic, investment opportunities. As of March 31, 2020, the total outstanding amount under the Credit Agreement was $500.0 million. At March 31, 2020, the weighted average interest rate on the term loan and revolving line of credit was 3.18%.

The Credit Facility is secured by substantially all of the Company's assets, including all intellectual property and all securities in domestic subsidiaries (other than certain domestic subsidiaries where the material assets of such subsidiaries are equity in foreign subsidiaries), subject to customary exceptions and exclusions from the collateral. All obligations under the Credit Agreement are unconditionally guaranteed by substantially all of the Company's material direct and indirect domestic subsidiaries, with certain exceptions. These guarantees are secured by substantially all of the present and future property and assets of the guarantors, with certain exclusions.

At March 31, 2020, we were in compliance with all covenants set forth in our Credit Agreement. Based upon our current plans, we expect our operating cash flows, together with our cash and short-term investment balances, to be sufficient to meet our operating requirements and service our debt for the foreseeable future. However, given the dynamic nature of the COVID-19 pandemic, there can be no assurances that its future impact will not have a material adverse effect on our ongoing business, results of operations, liquidity needs, debt covenant compliance or overall financial performance.

On August 5, 2019, our board of directors authorized a share repurchase program of up to $30.0 million of our common stock over 12 months from the approval date, subject to certain price and other trading restrictions as established by the Company. During the fiscal year ended March 31, 2020, we repurchased 505,565 shares of the Company's common stock at a weighted average price of $36.93 per share for an aggregate purchase price of $18.7 million. As of March 31, 2020, the share repurchase program has been suspended due to the COVID-19 pandemic.

To strengthen our digital engineering capabilities and establish a solid base in Silicon Valley, on March 12, 2018, we acquired all of the outstanding shares of eTouch Systems Corp ("eTouch US"), and its Indian subsidiary, eTouch Systems (India) Pvt. Ltd ("eTouch India," together with eTouch US, "eTouch") for approximately $140.0 million in cash, subject to certain adjustments. As part of the acquisition, we set aside up to an additional $15.0 million for retention bonuses to be paid to eTouch management and key employees, in equal installments on the first and second anniversary of the transaction. We agreed to pay the purchase price in three tranches, with $80.0 million paid at closing, $42.5 million on the 12-month anniversary of the close of the transaction, and $17.5 million on the 18-month anniversary of the close of the transaction, subject in each case to certain adjustments. During the three months ended March 31, 2019, we paid the 12-month anniversary purchase price payment of $42.5 million and the retention bonus amount of $7.0 million to the eTouch management and key employees. During the fiscal year ended March 31, 2020, we paid the 18-month anniversary purchase price payment of $17.5 million and the remaining retention bonus related to the employees.

On March 3, 2016, our Indian subsidiary, Virtusa Consulting Services Private Limited ("Virtusa India") acquired approximately 51.7% of the fully diluted shares of Polaris Consulting & Services Limited ("Polaris") for approximately $168.3 million in cash (the "Polaris Transaction") pursuant to a share purchase agreement dated as of November 5, 2015, by and among Virtusa India, Polaris and the promoter sellers named therein. Through a series of transactions, Virtusa increased its ownership to 100% for an additional aggregate consideration of $289.4 million, with $21.2 million being paid to former shareholders of Polaris during the fiscal year ended March 31, 2020. During the three months ended March 31, 2020, Polaris merged with and into Virtusa India, with Virtusa India being the surviving entity.

In connection with the Polaris Transaction, we entered into an amendment with Citigroup Technology, Inc. ("Citi"), which became effective upon the closing of the Polaris Transaction, pursuant to which Virtusa was added as a party to the master services agreement with Citi and was appointed as a preferred vendor.

On December 31, 2019, in connection with a request for proposal ("RFP") and vendor consolidation process conducted by Citi, and as part of the Company being one of the vendors selected to continue preferred vendor status at Citi and have the opportunity to compete for additional vendor consolidation work, the Company and Citi entered into Amendment No. 5 to the Master Professional Services Agreement, by and between the Company and Citi, dated as of July 1, 2015, as amended (the "Amendment"). Pursuant to the Amendment, (i) Citi agreed to maintain the Company as a preferred vendor under the Resource Management Organization ("RMO") for the provision of IT services to Citi on an enterprise wide basis, (ii) the Company agreed to provide certain savings to Citi for the period from April 1, 2020 to December 31, 2020 ("Savings Period"), which savings can be achieved through productivity and efficiency measures and associated reduced spend; provided that if these productivity and efficiency measures do not achieve the projected savings amounts, the Company is required to provide certain discounts to Citi for the Savings Period to achieve the savings commitments; and (iii) to the extent that Citi awards the Company additional or new work in addition to the services covered by the RFP, the Company agreed to provide Citi with a certain percentage of savings (whether achieved through productivity measures, efficiencies, discounts or otherwise) as a condition to performing such services.

On May 3, 2017, we entered into an investment agreement with The Orogen Group ("Orogen") pursuant to which Orogen purchased 108,000 shares of the Company's newly issued Series A Convertible Preferred Stock, initially convertible into 3,000,000 shares of common stock, for an aggregate purchase price of $108.0 million with an initial conversion price of $36.00 (the "Orogen Preferred Stock Financing"). In connection with the investment, Vikram S. Pandit, the former CEO of Citigroup, was appointed to Virtusa's Board of Directors. Orogen is an operating company that was created by Vikram Pandit and Atairos Group, Inc., an independent private company focused on supporting growth-oriented businesses, to leverage the opportunities created by the evolution of the financial services landscape and to identify and invest in financial services companies and related businesses with proven business models.

Under the terms of the investment, the Series A Convertible Preferred Stock has a 3.875% dividend per annum, payable quarterly in additional shares of common stock and/or cash at our option. If any shares of Series A Convertible Preferred Stock have not been converted into common stock prior to May 3, 2024, the Company will be required to repurchase such shares at a repurchase price equal to the liquidation preference of the repurchased shares plus the amount of accumulated and unpaid dividends thereon. If we fail to effect such repurchase, the dividend rate on the Series A Convertible Preferred Stock will increase by 1% per annum and an additional 1% per annum on each anniversary of May 3, 2024 during the period in which such failure to effect the repurchase is continuing, except that the dividend rate will not increase to more than 6.875% per annum. During the fiscal year ended March 31, 2020, the Company has $4.2 million as a cash dividend on its Series A Convertible Preferred Stock.

The Company also uses interest rate swaps to mitigate the Company's interest rate risk on the Company's variable rate debt. The Company's objective is to limit the variability of cash flows associated with changes in LIBOR interest rate payments due on the Credit Agreement (See Note 14 to the consolidated financial statements), by using pay-fixed, receive-variable interest rate swaps to offset the future variable rate interest payments. The Company purchased interest rate swaps in July 2016 with an effective date of July 2017 and November 2018. The July 2016 interest rate swaps are at a blended weighted average of 1.025% and the Company will receive 1-month LIBOR on the same notional amounts. The November 2018 interest rate swaps are at a fixed rate of 2.85% and are designed to maintain a 50% coverage of our LIBOR debt, therefore the notional amount changes over the life of the swap to retain the 50% coverage target.

The counterparties to the Interest Rate Swap Agreements could demand an early termination of the June 2016 and November 2018 Swap Agreements if we are in default under the Credit Agreement, or any agreement that amends or replaces the Credit Agreement in which the counterparty is a member, and we are unable to cure the default. An event of default under the Credit Agreement includes customary events of default and failure to comply with financial covenants, including a maximum consolidated leverage ratio commencing on December 31, 2018, of not more than 3.50 to 1.00 for periods ending prior to March 31, 2020, of not more than 3.25 to 1.00 commencing March 31, 2020 and for periods ending prior to September 30, 2020, and 3.00 to 1.00 thereafter and a minimum consolidated fixed charge coverage ratio of 1.25 to 1.00. As of March 31, 2020, we were in compliance with these covenants. The net unrealized loss associated with Interest Rate Swap Agreement was $11.1 million as of March 31, 2020, which represents the estimated amount that we would pay to the counterparties in the event of an early termination.

From time to time, the Company enters into arrangements to deliver IT services that include upfront payments to our clients. As of March 31, 2020, the total unamortized upfront payments related to these services were $32.2 million and are expected to be amortized as a reduction to revenue over a benefit period of 5 years.

Beginning in fiscal 2009, our U.K. subsidiary entered into an agreement with an unrelated financial institution to sell, without recourse, certain of its Europe-based accounts receivable balances from one client to the financial institution. During the fiscal year ended March 31, 2020, we sold $30.7 million of receivables under the terms of the financing agreement. Fees paid pursuant to this agreement were not material during the fiscal year ended March 31, 2020. No amounts were due under the financing agreement at March 31, 2020, but we may elect to use this program again in future periods. However, we cannot provide any assurances that this or any other financing facilities will be available or utilized in the future.

During the three months ended March 31, 2019, we recorded an impairment loss of $4.0 million relating to the reclassification of land acquired in the Polaris Transaction to held for sale. The decision to sell this land was made during the three months ended March 31, 2019 as part of our annual planning process where we evaluated strategic alternatives to maximize return on our cash and assets. As part of the assessment process, we considered projected headcount growth in this region, as well as ongoing compliance costs associated with holding the land, and concluded that our cash, including cash from the sale of this asset, would generate a higher return elsewhere. The reclassification to held for sale triggered a reduction in value to $8.3 million, which represents the lower of net book value and market value at March 31, 2020. We are actively marketing this land for sale and expect to complete a transaction over the next 12 months.

On February 28, 2019, the Supreme Court of India issued a ruling interpreting certain statutory defined contribution obligations of employees and employers, which altered historical understandings of such obligations, extending them to cover additional portions of employee income. As a result, contributions by our employees and the Company will increase in future periods. There is uncertainty as to whether the Indian government will apply the Supreme Court's ruling on a retroactive basis and if so, how this liability should be calculated as it is impacted by multiple variables, including the period of assessment, the application with respect to certain current and former employees and whether interest and penalties may be assessed. As such, the ultimate amount of our obligation is difficult to quantify. If the Indian Government were to apply the Supreme Court ruling retroactively, without assessing interest and penalties, the impact would be a charge of approximately $7.5 million to our income from operations and cash flows.

We expect capital expenditures made in the normal course of business during the fiscal year ended March 31, 2021, without regarding to any past or future acquisitions, to be consistent with our historical capital expenditures.

Cash flows

The following table summarizes our cash flows for the periods presented:

	Fiscal Year Ended March 31,		
	2020	2019	2018
	(In thousands)		
Net cash provided by operating activities	$ 79,894	$ 68,619	$ 62,699
Net cash used in investing activities	(47,019)	(74,708)	(52,669)
Net cash provided by financing activities	75,383	14,749	37,442
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(6,770)	(13,782)	2,677
Net increase (decrease) in cash and cash equivalents and restricted cash	101,488	(5,122)	50,149
Cash, cash equivalents and restricted cash, beginning of year	190,113	195,235	145,086
Cash, cash equivalents and restricted cash, end of year	$ 291,601	$ 190,113	$ 195,235

Net cash provided by operating activities

Net cash provided by operating activities increased in the fiscal year ended March 31, 2020 compared to the fiscal year ended March 31, 2019, primarily due to an increase in the net income adjusted for non-cash expenses, primarily related to a decrease in stock-based compensation as a result of performance stock awards and partially offset by an increase in long-term liabilities and income tax payable during the fiscal year ended March 31, 2020.

Net cash provided by operating activities increased in the fiscal year ended March 31, 2019 compared to the fiscal year ended March 31, 2018, primarily due to an increase in the net income adjusted for non-cash expenses and a decrease in the working capital, partially offset by a decrease in long-term assets and long-term liabilities during the fiscal year ended March 31, 2019.

Net cash used for investing activities

Net cash used in investing activities decreased in the fiscal year ended March 31, 2020 compared to fiscal year ended March 31, 2019. The decrease in net cash used in investing activities is primarily due to decrease in payment for deferred consideration related to the acquisition of eTouch, decrease in the purchase of property and equipment and a net decrease in the purchase of investments partially offset by payments for business combination and asset acquisitions.

Net cash used in investing activities increased in the fiscal year ended March 31, 2019 compared to fiscal year ended March 31, 2018. The increase in net cash used in investing activities is primarily due to the increase in the purchase of property and equipment and a net decrease in the proceeds from sale of investments during the fiscal year ended March 31, 2019 offset by a decrease in business acquisition payments.

Net cash provided by financing activities

Net cash provided by financing activities increased in the fiscal year ended March 31, 2020 compared to fiscal year ended March 31, 2019. The increase in net cash provided by financing activities in the fiscal year ended March 31, 2020 was primarily due to an increase in proceeds from debt and a decrease in payment of noncontrolling interest, partially offset by repurchases of common stock.

Net cash provided by financing activities decreased in the fiscal year ended March 31, 2019 compared to fiscal year ended March 31, 2018. The decrease in net cash provided by financing activities during the fiscal year ended March 31, 2019 is primarily due to a net decrease in the proceeds from the credit facility, an increase in payment of withholding taxes related to net share settlements of restricted stock, and an increase in payment of dividend on Series A Convertible Preferred Stock, partially offset by a net decrease in the acquisition of a noncontrolling interest.

Contractual obligations

The following table sets forth our future contractual obligations and commercial commitments at March 31, 2020.

	Payments Due by Period				
	Total	Less Than 1 Year	1 - 3 Years	3 - 5 Years	5+ Years
			(In thousands)		
Long-term debt obligation (1)	$ 499,969	$ 17,344	$ 482,625	$ —	$ —
Interest on long-term debt (2)	53,274	19,472	33,802	—	—
Operating lease obligations (3)	64,415	15,103	24,905	12,176	12,231
Defined benefit plans (4)	26,472	2,047	3,707	5,319	15,399
Capital and other purchase commitments (5)	31,758	10,324	10,115	11,319	—
Cumulative preferred stock dividends (6)	686	686	—	—	—
Deferred acquisition payments and contingent consideration (7)	39,276	29,523	9,753	—	—
Total	$ 715,850	$ 94,499	$ 564,907	$ 28,814	$ 27,630

(1) Our obligations towards repayments of our long-term debt, please see Note 14 to the consolidated financial statements for further information.

(2) Interest on long-term debt of 3.18% was calculated using weighted average of interest rates effective as of March 31, 2020.

(3) Our obligations under our operating leases consist of future payments primarily related to our real estate leases.

(4) We accrue and contribute to benefit funds covering our employees in India and Sri Lanka. The amounts in the table represent the expected benefits to be paid out over the next ten years. We are not able to quantify expected benefit payments beyond ten years with any certainty. We make periodic contributions to the plans such that the unfunded amounts are immaterial.

(5) Relates to build-out of various facilities in India, software license subscriptions and other purchase commitments, net of advances.

(6) Relates to our Series A Convertible Preferred Stock, which is payable quarterly.

(7) Relates to deferred acquisition payments and contingent consideration of asset and business acquisitions during the fiscal year 2020.

At March 31, 2020, we had $6.6 million of unrecognized tax benefits. This represents the tax benefits associated with tax positions on our domestic and international tax returns that have not been recognized on our financial statements due to uncertainty regarding their resolution. Resolution of the related tax positions with the relevant tax authorities may take years to complete, since such timing is not entirely within our control. It is reasonably possible that within the next 12 months certain positions will be resolved, which could result in a decrease in unrecognized tax benefits. These decreases may be offset by increases to unrecognized tax benefits if new positions are identified. The resolution or settlement of positions with the relevant taxing authorities is at various stages and therefore it is not practical to estimate the eventual cash flows by period that may be required to settle these matters.

Commitments and Contingencies

See Note 23 to our consolidated financial statements for additional information.

Application of critical accounting estimates and risks

Our consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles, or U.S. GAAP. Preparation of these financial statements requires us to make estimates and assumptions that affect the reported amount of revenue and expenses, assets and liabilities and the disclosure of contingent assets and liabilities. We consider an accounting estimate to be critical to the preparation of our consolidated financial statements when both of the following are present:

- the estimate is complex in nature or requires a high degree of judgment; and
- the use of different estimates and assumptions could have a material impact on the consolidated financial statements.

We have discussed the development and selection of our critical accounting estimates and related disclosures with the audit committee of our board of directors. Those estimates critical to the preparation of our consolidated financial statements are listed below.

Revenue recognition

We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

Revenues are recognized when control of the promised services is transferred to our customers in an amount that reflects the consideration we expect to be entitled to in exchange for those services.

We generally recognize revenue for services over time as our performance creates or enhances an asset that the customer controls from fixed price contracts related to complex design, development and customization. For these contracts, we measures the progress and recognize revenue using effort-based input methods, as we perform, based on actual efforts spent compared to the total expected efforts for the contract. The use of the effort based input method requires significant judgment relative to estimating total efforts, including assumptions relative to the length of time to complete the project and the nature and complexity of the work to be performed. Estimates of total efforts are continuously monitored during the term of the contract and are subject to revision as the contract progresses. When revisions in estimated contract revenue and efforts are determined, such adjustments are recorded in the period in which they are first identified. An input method is used to recognize revenue as the value of services provided to the customer is best represented by the hours expended to deliver those services.

We generally recognize revenue for services over time where the Company performance does not create an asset with an alternative use to the Company and the Company has an enforceable right to payment for performance completed to date for fixed-price contracts related to consulting or other IT services. For these contracts, we measure the progress and recognize revenue using effort-based input methods as we perform based on actual efforts spent compared to the total expected efforts for the contract. The cumulative impact of any change in estimates of the contract revenue is reflected in the period in which the changes become known.

We generally recognize revenue for time and material contracts over time as the customer simultaneously receives and consumes the benefits as the Company performs services. We either apply the as-invoiced practical expedient to recognize revenues for services rendered on time and material basis, or a method that is otherwise consistent with the way in which value is delivered to the customer.

We generally recognize revenue from fixed-price applications management, maintenance, or support engagements over time as customers receive and consume the benefits of such services and have applied the as-invoiced practical expedient to recognize revenue for services we render to customers based on the amount we have a right to invoice, which is representative of the value being delivered. If our invoicing is not consistent with value delivered, revenues are recognized on a straight-line basis unless revenues are earned and obligations are fulfilled in a different pattern.

Contracts are often modified to account for changes in contract specification and requirements. We consider a contract modification when the modification either creates new or changes the existing enforceable rights and obligations. The accounting for modifications involves assessing whether the services added to an existing contract are distinct and whether the pricing is at the standalone selling price. Services added that are not distinct are accounted for on a cumulative catch up basis, while those that are distinct are accounted for prospectively, either as a separate contract if the additional services are priced at the standalone selling price, or as a termination of the existing contract and creation of a new contract if not priced at the standalone selling price.

Certain customers may receive discounts, incentive payments or service level credits. A portion of the revenues relating to such arrangements are accounted for as variable consideration when the amount of revenue to be recognized can be estimated to the extent that it is probable that a significant reversal of any revenue will not occur. We estimate these amounts based on the expected amount to be provided to customers and adjusts revenues recognized. We estimate the amount of variable consideration and determination of whether to include estimated amounts in the transaction price may involve judgment and are based largely on an assessment of our anticipated performance and all information that is reasonably available to us.

From time to time, we may enter into contracts with customers that include multiple performance obligations. For such arrangements, we allocate revenue to each performance obligation based on its relative standalone selling price. We generally determine standalone selling prices based on an expected cost plus a margin approach.

Our warranties generally provide a customer with assurance that the related deliverable will function as the parties intended because it complies with agreed-upon specifications and is therefore not considered as an additional performance obligation in the contract.

When we receive consideration from a customer prior to transferring services to the customer under the terms of a contract, we record deferred revenue, which represents a contract liability. We recognize deferred revenue as revenue after we have transferred control of the services to the customer and all revenue recognition criteria are met.

Our payment terms vary by the type and location of its customers. The term between invoicing and when payment is due is not significant. As a practical expedient, we have not assessed the existence of a significant financing component when the difference between payment and transfer of deliverables is one year or less.

We report gross reimbursable “out-of-pocket” expenses incurred as both revenues and cost of revenues.

Any tax assessed by a governmental authority that is incurred as a result of a revenue transaction (e.g. sales tax) is excluded from our assessment of transaction prices.

Leases

Our leased assets primarily consist of operating leases for office space, equipment and vehicles. At the inception of a contract, we determine whether a contract contains a lease, and if a lease is identified, whether it is an operating or finance lease. In determining whether a contract contains a lease, we consider whether (1) it has the right to obtain substantially all of the economic benefits from the use of the asset throughout the term of the contract, (2) it has the right to direct how and for what purpose the asset is used throughout the term of the contract and (3) it has the right to operate the asset throughout the term of the contract without the lessor having the right to change the terms of the contract. We lease vehicles in certain locations primarily as an employee benefit and these leases are classified as either operating or finance leases. We do not have finance leases that are material to our consolidated financial statements. Some of our lease agreements contain both lease and non-lease components. We separate lease components from non-lease components for all our lease assets. The consideration in the lease contract is allocated to the lease and non-lease components based on the estimated standalone prices. Our lease agreements, mainly for office space, may include options to extend or terminate the lease before the expiration date. We include such options when determining the lease term when it is reasonably certain that we will exercise that option.

A portion of the leases for office space contain certain charges for additional rent expenses that are variable. Due to this variability, the cash flows associated with these charges are not included in the minimum lease payments used in determining the right-of-use ("ROU") lease assets and associated lease liabilities.

Our ROU lease assets represent our right to use an underlying asset for the lease term and may include any advance lease payments made and any initial direct costs and exclude lease incentives. Our lease liabilities represent our obligation to make lease payments arising from the contractual terms of the lease. ROU lease assets and lease liabilities are recognized at the commencement of the lease and are calculated using the present value of lease payments over the lease term. Our operating lease agreements do not provide enough information to arrive at an implicit interest rate. Therefore, we use our estimated incremental borrowing rate based on information available at the commencement date of the lease to calculate the present value of the lease payments. We determine the incremental borrowing rate on a lease-by-lease basis by developing an estimated borrowing rate of the Company for a fully collateralized obligation with a term similar to the lease term, and adjusts the rate to reflect the incremental risk associated with the currency in which the lease is denominated.

Derivative instruments and hedging activities

We enter into forward foreign exchange contracts to mitigate the risk of changes in foreign exchange rates on forecasted transactions denominated in foreign currencies. The Company also enters into interest rate swaps to mitigate interest rate risk on the Company's variable rate debt. Certain of these transactions meet the criteria for hedge accounting as cash flow hedges under accounting standards codification. Changes in the fair values of these hedges are deferred and recorded as a component of accumulated other comprehensive income (loss), net of tax, until the hedged transactions occur and are then recognized in the consolidated statements of income in the same line item as the item being hedged. The Company measures the effectiveness of these hedges at the time of inception, as well as on an ongoing basis. If any portion of the hedges is deemed ineffective, the respective portion is recorded in accumulated other comprehensive income until the occurrence of the hedged transaction and at that time, the gains or losses are recognized in the consolidated statement of income in other income (expense). For derivative contracts that are not designated as cash flow hedges, at maturity changes in the fair value, if any, are recognized in the same line item as the underlying exposure being hedged in the statements of income. We value our derivatives based on market observable inputs including both forward and spot prices for currencies. Any significant change in the forward or spot prices for currencies would have a significant impact on the value of our derivatives.

Goodwill and other intangible assets

We account for our business combinations under the acquisition method of accounting. We allocate the cost of an acquired entity to the assets acquired and liabilities assumed, including any contingent consideration based on their estimated fair values at the date of acquisition. The excess of the purchase price for acquisitions over the fair value of the net assets acquired, including other intangible assets, is recorded as goodwill. Goodwill is not amortized but is tested for impairment at the reporting unit level, defined at the Company level, in the fourth quarter of each fiscal year or more frequently when events or circumstances occur that indicate that it is more likely than not that an impairment has occurred. In assessing goodwill for impairment, an entity has the option to assess qualitative factors to determine whether events or circumstances indicate that it is not more likely than not that fair value of a reporting unit is less than its carry amount. If this is the case, then performing the quantitative two-step goodwill impairment test is unnecessary. An entity can choose not to perform a qualitative assessment for any or all of its reporting units, and proceed directly to the use of the two-step impairment test. The two-step process begins with an estimation of the fair value of a reporting unit. Goodwill impairment exists when a reporting unit's carrying value of goodwill exceeds its implied fair value. Significant judgment is applied when goodwill is assessed for impairment.

For our goodwill impairment analysis, we operate under one reporting unit. Any impairment would be measured based upon the fair value of the related assets. In performing the first step of the goodwill impairment testing and measurement process, we compare our entity-wide estimated fair value to net book value to identify potential impairment. Management estimates the entity-wide fair value utilizing our market capitalization, plus an appropriate control premium. Market capitalization is determined by multiplying the shares outstanding on the assessment date by the market price of our common stock. If the fair value of the reporting unit is less than the book value, the second step is performed to determine if goodwill is impaired. If we determine through the impairment evaluation process that goodwill has been impaired, an impairment charge would be recorded in the consolidated statement of income. We completed the annual impairment test required during the fourth quarter of the fiscal year ended March 31, 2020 and determined that there was no impairment. We continue to closely monitor our market capitalization. If our market capitalization, plus an estimated control premium, is below its carrying value for a period considered to be other- than-temporary, it is possible that we may be required to record an impairment of goodwill either as a result of the annual assessment that we conduct in the fourth quarter of each fiscal year, or in a future quarter if an indication of potential impairment is evident. The estimated fair value of the reporting unit on the assessment date significantly exceeded the carrying book value.

Other intangible assets acquired in a business combination are recognized at fair value using generally accepted valuation methods appropriate for the type of intangible asset and reported separately from goodwill. Intangible assets with definite lives are amortized over the estimated useful lives and tested for impairment when events or circumstances occur that indicate that it is more likely than not that an impairment has occurred. We test other intangible assets with definite lives for impairment by comparing the carrying amount to the sum of the net undiscounted cash flows expected to be generated by the asset whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. If the carrying amount of the asset exceeds its net undiscounted cash flows, then an impairment loss is recognized for the amount by which the carrying amount exceeds its fair value.

Income taxes

The calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax regulations in multiple jurisdictions where we have operations. We record liabilities for estimated tax obligations in the United States and other tax jurisdictions. Determining the consolidated provision for income tax expense, tax reserves, deferred tax assets and liabilities and related valuation allowance, if any, involves judgment. We calculate and provide for income taxes in each of the jurisdictions in which we operate, and these calculations and determinations can involve complex issues which require an extended time to resolve. In the fiscal year of any such resolution, additional adjustments may need to be recorded that result in increases or decreases to income. Our overall effective tax rate fluctuates due to a variety of factors, including arm’s-length prices for our intercompany transactions, changes in the geographic mix, as well as newly enacted tax legislation in each of the jurisdictions in which we operate. Applicable transfer pricing regulations require that transactions between and among our subsidiaries be conducted at an arm’s-length price. On an ongoing basis, we estimate appropriate arm’s-length prices and use such estimates for our intercompany transactions.

At each financial statement date, we evaluate whether a valuation allowance is needed to reduce our deferred tax assets to the amount that is more likely than not to be realized. This evaluation considers the weight of all available evidence, including both future taxable income and ongoing prudent and feasible tax planning strategies. In the event that we determine that we will not be able to realize a recognized deferred tax asset in the future, an adjustment to the valuation allowance would be made, resulting in a decrease in income (or equity in the case of excess stock option tax benefits) in the period such determination was made. Likewise, should we determine that we will be able to realize all or part of an unrecognized deferred tax asset in the future, an adjustment to the valuation allowance would be made, resulting in an increase to income (or equity in the case of excess stock option tax benefits). We currently have net operating loss carry forwards in the U.S., Sweden and the United Kingdom, some of which realization of benefits is no longer considered more likely than not of materializing. A valuation allowance has been recorded in current period results to reflect this. The CARES Act provided for NOLs arising in tax years beginning after December 31, 2017, and before January 1, 2021, may be carried back to each of the five tax years preceding the tax year of such loss. The CARES Act also provided a correction to the Tax Act providing a two-year carryback for our NOL in the fiscal year ended March 31, 2018. The Company intends to file an immediate carry back claim in the U.S. Net operating losses have an unlimited carry forward period, although there are annual limitations on their use suspended for certain years as result of CARES Act.

On September 20, 2019, the Indian government issued Ordinance 2019 making certain amendments in the Income-tax Act 1961, which substantially reduces tax rates. The effective rate of tax on India-based companies was reduced from 34.9% to 25.17%, effective for fiscal years beginning April 1, 2019. We adopted the new ordinance for the fiscal year beginning April 1, 2019. The new rates require the surrendering of any tax holidays and other attributes of which the Company historically was taking advantage of and favorably impacting our tax rate.

In the past, we have benefited from long-term income tax holiday arrangements in both India and Sri Lanka. We have located development centers in areas designated as Special Economic Zones ("SEZ") to secure tax exemptions for these operations for a period of ten years, which extend to 15 years if we meet certain reinvestment requirements. During the fiscal year ended March 31, 2013, we elected the tax holiday for our SEZ Co-developer located in Hyderabad, India for a period of 10 years. Our India profits ineligible for SEZ benefits were subject to corporate income tax at the current rate of 34.94%. Our Sri Lanka subsidiary has been granted an income tax holiday by the Sri Lanka Board of Investment ("BOI") which expired on March 31, 2019. The tax holiday is contingent upon a certain level of job creation by us during a given timetable. Although we believe we have met the job creation requirements, if the BOI concludes otherwise, this would jeopardize the maximum benefits from this holiday arrangement. As a result of these tax holiday arrangements, our worldwide profit has been subject to a relatively low effective tax rate. It is our intent to reinvest all accumulated earnings from foreign operations back into their respective businesses to fund growth. As a component of this strategy, we do not accrue incremental taxes on foreign earnings as these earnings are considered to be indefinitely reinvested outside of the United States. If such earnings were to be repatriated in the future or are no longer deemed to be indefinitely reinvested, we will accrue the applicable amount of taxes associated with such earnings, which would increase our overall effective tax rate.

Off-balance sheet arrangements

We do not have any investments in special purpose entities or undisclosed borrowings or debt.

We have entered into foreign currency derivative contracts with the objective of limiting our exposure to changes in the Indian rupee, the U.K. pound sterling, the euro, the Canadian dollar, the Australian dollar and the Swedish Krona as described below and in "Quantitative and Qualitative Disclosures about Market Risk."

We maintain a foreign currency cash flow hedging program designed to further mitigate the risks of volatility in the Indian rupee against the U.S. dollar and U.K. pound sterling as described below in "Quantitative and Qualitative Disclosures about Market Risk." From time to time, we may also purchase multiple foreign currency forward contracts designed to hedge fluctuation in foreign currencies, such as the U.K. pound sterling, euro, the Canadian dollar, the Australian dollar and Swedish Krona against the U.S. dollar to minimize the impact of foreign currency fluctuations on foreign currency denominated revenue and expenses. Other than these foreign currency derivative contracts, we have not entered into off-balance sheet transactions, arrangements or other relationships with unconsolidated entities or other persons that are likely to affect liquidity or the availability of or requirements for capital resources.

Recent accounting pronouncements

See Note 2 to our consolidated financial statements for additional information.

Item 7A. ***Quantitative and Qualitative Disclosures About Market Risk.***

Foreign currency exchange rate risk

We are exposed to foreign currency exchange rate risk in the ordinary course of business. We have historically entered into, and in the future we may enter into, foreign currency derivative contracts to minimize the impact of foreign currency fluctuations on both foreign currency denominated assets and forecasted revenue and expenses. The purpose of this foreign exchange policy is to protect us from the risk that the recognition of and eventual cash flows related to Indian rupee denominated expenses might be affected by changes in exchange rates. Some of these contracts meet the criteria for hedge accounting as cash flow hedges (See Note 24 of our consolidated financial statements included herein for a description of recent hedging activities).

We evaluate our foreign exchange policy on an ongoing basis to assess our ability to address foreign exchange exposures on our balance sheet, statement of income and operating cash flows from all foreign currencies, including most significantly the GBP and the Indian rupee.

We have an 18 month rolling hedge program comprised of a series of foreign exchange forward contracts that are designated as cash flow hedges. This program is designed to mitigate the impact of volatility in the U.S. dollar and the GBP equivalents of our Indian rupee denominated expenses. While these hedges are achieving the designed objective, upon consolidation they may cause volatility in revenue. The U.S. dollar equivalent notional value of all outstanding foreign currency derivative contracts at March 31, 2020 was $128.7 million. There is no assurance that the hedging program or hedging contracts will be effective. As these foreign currency hedging programs are designed to reduce volatility in the Indian rupee, they not only reduce the negative impact of a stronger Indian rupee but also reduce the positive impact of a weaker Indian rupee on our Indian rupee expenses.

The GBP, the euro, the Canadian dollar (“CAD”) and the Australian dollar (“AUD”) exchange fluctuations can have an unpredictable impact on our GBP, euro, CAD and AUD revenues generated and costs incurred. In response to this volatility, we have an economic hedge program under which we have entered into hedging transactions designed to hedge our forecasted revenue and expenses denominated in the GBP, the euro, the Canadian dollar and the Australian dollar. These derivative contracts have maximum duration of 92 days and do not meet the criteria for hedge accounting. Such hedges may not be effective in mitigating this currency volatility. These hedges are designed to reduce the negative impact of a weaker GBP, euro, CAD and AUD, however they also reduce the positive impact of a stronger GBP, euro, CAD or AUD on the respective revenues.

Interest rate risk

Interest under our credit facility accrues at a rate per annum of LIBOR plus 2.75%, subject to step-downs based on our ratio of debt to EBITDA. In the event that LIBOR is discontinued as expected in 2021, we expect the interest rates for our debt following such event will be based on either alternate base rates or an agreed upon replacement reference rates. While we do not expect a LIBOR discontinuation would affect our ability to borrow or maintain already outstanding borrowings, it could result in higher interest rates. We entered into interest rate swap agreements to minimize interest rate exposure. The Credit Agreement for our credit facility includes maximum debt to EBITDA and minimum fixed charge coverage covenants. The term of the Credit Agreement is five years, ending February 6, 2023. At March 31, 2020, the weighted average interest rate on the term loan and line of credit was 3.18%. At March 31, 2020, the outstanding amount under the Credit Agreement was $500.0 million.

At March 31, 2020, we had $300.6 million in cash and cash equivalents, short-term investments and long-term investments, the interest income from which is affected by changes in interest rates. Our invested securities primarily consist of money market mutual funds and time deposits. Our investments are classified as available-for-sale debt securities, time deposits and equity securities. These investments are recorded at fair value. Our investments are sensitive to changes in interest rates. Interest rate changes would result in a change in the net fair value of these financial instruments due to the difference between the market interest rate at the period end and the market interest rate at the date of purchase of the financial instrument.

We do not believe we are exposed to material direct risks associated with changes in interest rates other than with respect to our existing credit facility, our cash and cash equivalents, short term investments and long term investments. We performed a sensitivity analysis to determine the effect of interest rate fluctuations. At March 31, 2020, we had $500.0 million in outstanding debt, a 100 basis point increase in market interest rates would have a $5.5 million change in our interest expense and a 100 basis point decrease in market interest rates would have a $4.5 million change in our interest expense.

Information provided by the sensitivity analysis does not necessarily represent the actual changes that would occur under normal market conditions.

Concentration of credit risk

Financial instruments which potentially expose us to concentrations of credit risk primarily consist of cash and cash equivalents, short-term investments and long-term investments, accounts receivable, derivative contracts, other financial assets and unbilled accounts receivable. We place our operating cash, investments and derivatives in highly-rated financial institutions. We adhere to a formal investment policy with the primary objective of preservation of principal, which contains credit rating minimums and diversification requirements. We believe that our credit policies reflect normal industry terms and business risk. We do not anticipate non-performance by the counterparties as we invest with highly-rated financial institutions and, accordingly, do not require collateral. Credit losses and write-offs of accounts receivable balances have historically not been material to our consolidated financial statements and have not exceeded our expectations.

Item 8. ***Financial Statements and Supplementary Data.***

Virtusa Corporation and Subsidiaries
Index to Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors

Virtusa Corporation:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Virtusa Corporation and subsidiaries (the Company) as of March 31, 2020 and 2019, the related consolidated statements of income (loss), comprehensive income (loss), stockholders' equity, and cash flows for each of the years in the three year period ended March 31, 2020, and the related notes and financial statement schedule II, Valuation and Qualifying Accounts (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of March 31, 2020 and 2019, and the results of its operations and its cash flows for each of the years in the three year period ended March 31, 2020, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of March 31, 2020, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated May 28, 2020 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company adopted the new standard, Accounting Standards Codification (ASC) Topic 842, Leases, effective April 1, 2019, using the modified retrospective effective date method. This included the adoption of Accounting Standards Update (ASU) 2016-02, Leases, ASU 2018-10, Land Easement Practical Expedient for Transition to Topic 842, ASU 2018-11, Targeted Improvements, ASU 2018-20, Narrow-Scope Improvements for Lessors and ASU 2019-01, Codification Improvements to Topic 842.

Basis for Opinion

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

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

Critical Audit Matter

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

Evaluation of the estimate of total efforts to be incurred for certain ongoing fixed-price revenue contracts

As discussed in Notes 2 and 10 to the consolidated financial statements, the Company recognizes revenue for fixed-price contracts over time using an effort based input method. This method is based on the ratio of: (i) actual efforts incurred to date, and (ii) the Company's estimate of total efforts to be incurred for the contract.

We identified the evaluation of the estimate of total efforts to be incurred for certain ongoing fixed-price revenue contracts to be a critical audit matter. In particular, evaluating the Company’s judgments regarding the nature and complexity of work to be performed to complete the contract involved a high degree of subjective auditor judgment. Changes in these key assumptions could have a significant impact on the timing of fixed-price contract revenue.

The primary procedures we performed to address the critical audit matter included the following. We tested certain internal controls over the Company’s process to develop estimates of total efforts to be incurred. We assessed the Company’s assumptions underlying the estimate of total contract efforts to be incurred for certain ongoing fixed-price revenue contracts. We inspected customer contracts to evaluate the Company’s identification of performance obligations and determined method for measuring contract progress. We interviewed personnel of the Company to evaluate progress to date and factors impacting the extent of efforts to complete the contract. We inspected correspondence between the Company and the customer for certain contracts as part of our assessment of the total efforts to complete the contract. We compared the Company’s estimates of efforts to be incurred to the actual efforts incurred to assess the Company’s ability to accurately estimate efforts.

/s/ KPMG LLP

We have served as the Company’s auditor since 2004.

Boston, Massachusetts

May 28, 2020

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors

Virtusa Corporation:

Opinion on Internal Control Over Financial Reporting

We have audited Virtusa Corporation and subsidiaries' (the Company) internal control over financial reporting as of March 31, 2020, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of March 31, 2020, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of March 31, 2020 and 2019, the related consolidated statements of income (loss), comprehensive income (loss), stockholders' equity, and cash flows for each of the years in the three-year period ended March 31, 2020, and the related notes and financial statement schedule II, Valuation and Qualifying Accounts (collectively, the consolidated financial statements), and our report dated May 28, 2020 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ KPMG LLP

Boston, Massachusetts
May 28, 2020

Virtusa Corporation and Subsidiaries

Consolidated Balance Sheets

(In thousands, except share and per share amounts)

	March 31, 2020	March 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 290,837	$ 189,676
Short-term investments	9,785	33,138
Accounts receivable, net of allowance of $1,541 and $2,253 at March 31, 2020 and March 31, 2019, respectively	148,950	162,396
Unbilled accounts receivable	137,839	113,431
Prepaid expenses	55,574	42,314
Restricted cash	659	351
Asset held for sale	8,334	8,978
Other current assets	29,214	29,967
Total current assets	681,192	580,251
Property and equipment, net	101,250	119,865
Operating lease right-of-use assets	48,684	—
Investments accounted for using equity method	1,336	1,446
Long-term investments	4	322
Deferred income taxes	30,225	28,770
Goodwill	296,493	279,543
Intangible assets, net	130,903	92,440
Other long-term assets	46,980	29,836
Total assets	$ 1,337,067	$ 1,132,473
Liabilities, Series A Convertible Preferred Stock, Redeemable noncontrolling interest and Stockholders' equity		
Current liabilities:		
Accounts payable	$ 38,537	$ 46,471
Accrued employee compensation and benefits	79,373	74,801
Deferred revenue	8,054	6,421
Accrued expenses and other	95,124	70,050
Current portion of long-term debt	16,043	11,407
Operating lease liabilities	11,543	—
Income taxes payable	3,233	4,844
Total current liabilities	251,907	213,994
Deferred income taxes	16,067	15,824
Operating lease liabilities, noncurrent	41,697	—
Long-term debt, less current portion	480,154	351,320
Long-term liabilities	42,475	29,824
Total liabilities	832,300	610,962
Commitments and contingencies		
Series A Convertible Preferred Stock: par value $0.01 per share, 108,000 shares authorized, 108,000 shares issued and outstanding at March 31, 2020 and March 31, 2019; redemption amount and liquidation preference of $108,000 at March 31, 2020 and March 31, 2019	107,326	107,161
Redeemable noncontrolling interest	—	23,576
Stockholders' equity:		
Undesignated preferred stock, $0.01 par value; Authorized 5,000,000 shares at March 31, 2020 and March 31, 2019	—	—
Common stock, $0.01 par value; Authorized 120,000,000 shares at March 31, 2020 and March 31, 2019; issued 33,518,389 and 33,012,775 shares at March 31, 2020 and March 31, 2019, respectively; outstanding 30,132,825 and 30,132,776 shares at March 31, 2020 and March 31, 2019, respectively	335	330
Treasury stock, 3,385,564 and 2,879,999 common shares, at cost, at March 31, 2020 and March 31, 2019, respectively	(58,332)	(39,652)
Additional paid-in capital	246,862	239,204
Retained earnings	293,831	250,279
Accumulated other comprehensive loss	(85,255)	(59,387)
Total Virtusa stockholders' equity	397,441	390,774
Noncontrolling interest in subsidiaries	—	—
Total Stockholders' equity	397,441	390,774
Total liabilities, Series A convertible preferred stock, redeemable noncontrolling interest and stockholders' equity	$ 1,337,067	$ 1,132,473

See accompanying notes to consolidated financial statement

Virtusa Corporation and Subsidiaries

Consolidated Statements of Income (Loss)

(In thousands, except per share amounts)

	Year Ended March 31,		
	2020	**2019**	**2018**
Revenue	$ 1,312,283	$ 1,247,863	$ 1,020,669
Costs of revenue	959,143	884,652	725,445
Gross profit	353,140	363,211	295,224
Operating expenses:			
Selling, general and administrative expenses	272,928	292,943	248,837
Income from operations	80,212	70,268	46,387
Other income (expense):			
Interest income	2,239	2,672	4,264
Interest expense	(19,193)	(18,164)	(7,634)
Foreign currency transaction losses, net	(15,999)	(13,130)	(3,543)
Other, net	1,402	(3,482)	2,362
Total other expense	(31,551)	(32,104)	(4,551)
Income before income tax expense	48,661	38,164	41,836
Income tax expense	309	20,473	32,888
Net income	48,352	17,691	8,948
Less: net income attributable to noncontrolling interests, net of tax	450	1,545	7,694
Net income available to Virtusa stockholders	47,902	16,146	1,254
Less: Series A Convertible Preferred Stock dividends and accretion	4,350	4,350	3,963
Net income (loss) available to Virtusa common stockholders	$ 43,552	$ 11,796	$ (2,709)
Basic earnings (loss) per share available to Virtusa common stockholders	$ 1.45	$ 0.40	$ (0.09)
Diluted earnings (loss) per share available to Virtusa common stockholders	$ 1.42	$ 0.38	$ (0.09)

See accompanying notes to consolidated financial statements

Virtusa Corporation and Subsidiaries

Consolidated Statements of Comprehensive Income (Loss)

(In thousands)

	Year Ended March 31, 2020	2019	2018
Net income	$ 48,352	$ 17,691	$ 8,948
Other comprehensive income (loss):			
Foreign currency translation adjustment	(13,464)	(17,305)	8,262
Pension plan adjustment, net of tax effect of $234, $39, $(146)	(148)	(687)	(249)
Unrealized loss on available-for-sale debt securities, net of tax effect of $0, $78, $(138)	—	(69)	(15)
Unrealized loss on effective cash flow hedges, net of tax effect of $(3,972), $(912), $(4,230)	(11,857)	(1,866)	(10,986)
Other comprehensive loss	$ (25,469)	$ (19,927)	$ (2,988)
Comprehensive income (loss)	22,883	(2,236)	5,960
Less: comprehensive income attributable to noncontrolling interest, net of tax	849	324	5,638
Comprehensive income (loss) available to Virtusa stockholders	$ 22,034	$ (2,560)	$ 322

See accompanying notes to consolidated financial statements

Virtusa Corporation and Subsidiaries

Consolidated Statements of Stockholders' Equity

(In thousands, except share and per share amounts)

	Common Stock		Treasury Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Virtusa Stockholders' Equity	Noncontrolling interest	Total Stockholders' equity	Redeemable Noncontrolling Interest
	Shares	Amount	Shares	Amount							
Balance at March 31, 2017	31,762,214	$ 318	(1,856,703)	$ (9,652)	$ 305,387	$ 240,728	$ (39,749)	$ 497,032	$ 87,984	$ 585,016	$ —
Proceeds from the exercise of stock options	322,317	3	—	—	4,060	—	—	4,063	—	4,063	—
Proceeds from the exercise of subsidiary stock options	—	—	—	—	1,837	—	—	1,837	—	1,837	—
Restricted stock awards vested	384,561	4	—	—	(4)	—	—	—	—	—	—
Restricted stock awards withheld for tax	—	—	—	—	(7,173)	—	—	(7,173)	—	(7,173)	—
Repurchase of common stock	—	—	(1,023,296)	(30,000)	—	—	—	(30,000)	—	(30,000)	—
Share-based compensation	—	—	—	—	27,230	—	—	27,230	—	27,230	—
Subsidiary share-based compensation	—	—	—	—	181	—	—	181	—	181	—
Other	—	—	—	—	—	—	—	—	(42)	(42)	—
Purchase of Polaris additional noncontrolling interest, net of transactions costs	—	—	—	—	(70,906)	—	—	(70,906)	(76,120)	(147,026)	—
Series A Convertible Preferred Stock dividends and accretion	—	—	—	—	—	(3,963)	—	(3,963)	—	(3,963)	—
Other comprehensive income (loss)	—	—	—	—	—	—	(932)	(932)	(2,056)	(2,988)	—
Net income					—	1,254	—	1,254	7,694	8,948	—
Balance at March 31, 2018	32,469,092	$ 325	(2,879,999)	$(39,652)	$ 260,612	$ 238,019	$ (40,681)	$ 418,623	$ 17,460	$ 436,083	$ —
Proceeds from the exercise of stock options	101,618	1	—	—	1,018	—	—	1,019	—	1,019	—
Proceeds from the exercise of subsidiary stock options	—	—	—	—	259	—	—	259	—	259	54
Restricted stock awards vested	442,065	4	—	—	(4)	—	—	—	—	—	—
Restricted stock awards withheld for tax	—	—	—	—	(12,094)	—	—	(12,094)	—	(12,094)	—
Share-based compensation	—	—	—	—	27,892	—	—	27,892	—	27,892	—
Subsidiary share-based compensation	—	—	—	—	34	—	—	34	—	34	—
Reclassification of previously recognized stock compensation related to liabilities classified awards for Polaris to liabilities	—	—	—	—	(619)	—	—	(619)	—	(619)	—
Cumulative effect of adopting ASC Topic 606, net of tax	—	—	—	—	—	464	—	464	—	464	—
Other	—	—	—	—	(115)	—	—	(115)	(290)	(405)	—
Adjustments of redeemable noncontrolling interest to redemption value	—	—	—	—	(37,779)	—	—	(37,779)	(16,450)	(54,229)	55,508
Purchase of redeemable noncontrolling interest related to Polaris	—	—	—	—	—	—	—	—	—	—	(31,979)
Foreign currency translation on redeemable noncontrolling interest	—	—	—	—	—	—	—	—	—	—	(1,051)
Series A Convertible Preferred Stock dividends and accretion	—	—	—	—	—	(4,350)	—	(4,350)	—	(4,350)	—
Other comprehensive income (loss)	—	—	—	—	—	—	(18,706)	(18,706)	(1,466)	(20,172)	245
Net income	—	—	—	—	—	16,146	—	16,146	746	16,892	799
Balance at March 31, 2019	33,012,775	$ 330	(2,879,999)	$(39,652)	$ 239,204	$ 250,279	$ (59,387)	$ 390,774	$ —	$ 390,774	$ 23,576

Virtusa Corporation and Subsidiaries

Consolidated Statements of Stockholders' Equity

(In thousands, except share and per share amounts)

	Common Stock		Treasury Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Virtusa Stockholders' Equity	Noncontrolling interest	Total Stockholders' equity	Redeemable Noncontrolling Interest
	Shares	Amount	Shares	Amount							
Balance at March 31, 2019	33,012,775	$ 330	(2,879,999)	$(39,652)	$ 239,204	$250,279	$ (59,387)	$ 390,774	$ —	$ 390,774	$ 23,576
Proceeds from the exercise of stock options	31,830	—	—	—	468	—	—	468	—	468	16
Restricted stock awards vested	473,784	5	—	—	(5)	—	—	—	—	—	—
Restricted stock awards withheld for tax	—	—	—	—	(10,544)	—	—	(10,544)	—	(10,544)	—
Share-based compensation	—	—	—	—	15,683	—	—	15,683	—	15,683	—
Repurchase of common stock	—	—	(505,565)	(18,680)	—	—	—	(18,680)	—	(18,680)	—
Adjustments of redeemable noncontrolling interest to redemption value	—	—	—	—	44	—	—	44	—	44	262
Purchase of redeemable noncontrolling interest related to Polaris	—	—	—	—	—	—	—	—	—	—	(8,674)
Reclassification of noncontrolling interest from temporary equity to permanent equity	—	—	—	—	—	—	—	—	15,093	15,093	(15,093)
Reclassification of noncontrolling interest from permanent equity to liability	—	—	—	—	—	—	—	—	(13,564)	(13,564)	—
Adjustments for reclassification of noncontrolling interest	—	—	—	—	2,012	—	—	2,012	(2,049)	(37)	—
Foreign currency translation on redeemable noncontrolling interest	—	—	—	—	—	—	—	—	—	—	(417)
Series A Convertible Preferred Stock dividends and accretion	—	—	—	—	—	(4,350)	—	(4,350)	—	(4,350)	—
Other comprehensive income (loss)	—	—	—	—	—	—	(25,868)	(25,868)	256	(25,612)	144
Net income	—	—	—	—	—	47,902	—	47,902	264	48,166	186
Balance at March 31, 2020	33,518,389	$ 335	(3,385,564)	$(58,332)	$ 246,862	$293,831	$ (85,255)	$ 397,441	$ —	$ 397,441	$ —

See accompanying notes to consolidated financial statements

Virtusa Corporation and Subsidiaries
Consolidated Statements of Cash Flows
(In thousands)

	Year Ended March 31,		
	2020	**2019**	**2018**
Cash flows from operating activities:			
Net income	$ 48,352	$ 17,691	$ 8,948
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	32,545	29,001	27,537
Share-based compensation expense	15,716	29,056	27,411
Provision (recovery) for doubtful accounts	(13)	(864)	1,248
Gain on disposal of property and equipment	(366)	(71)	(10)
Impairment of long-lived asset classified as held for sale	—	3,955	—
Impairment of investment	184	1,411	—
Foreign currency transaction losses, net	15,999	13,130	3,543
Amortization of discounts and premiums on investments	(6)	83	313
Amortization of debt issuance cost	1,188	1,092	1,057
Deferred income taxes, net	2,183	(1,770)	(9,946)
Net changes in operating assets and liabilities			
Accounts receivable and unbilled receivable	(12,435)	(22,741)	(36,542)
Prepaid expenses and other current assets	(13,080)	(21,498)	(9,260)
Other long-term assets	(21,126)	(21,812)	(1,377)
Accounts payable	(3,008)	16,452	4,413
Accrued employee compensation and benefits	7,435	3,663	13,772
Accrued expenses and other current liabilities	12,489	13,059	3,931
Operating lease liabilities	289	—	—
Income taxes payable	(2,513)	4,120	12,683
Other long-term liabilities	(3,939)	4,662	14,978
Net cash provided by operating activities	79,894	68,619	62,699
Cash flows from investing activities:			
Proceeds from sale of property and equipment	909	1,033	261
Purchase of short-term investments	(36,047)	(96,557)	(100,486)
Proceeds from sale or maturity of short-term investments	58,408	109,512	157,194
Purchase of long-term investments	—	—	(16,772)
Proceeds from sale or maturity of long-term investments	—	—	1,606
Payment for asset acquisitions	(9,542)	—	—
Payment of contingent consideration of asset acquisition	(1,051)	—	—
Business acquisitions, net of cash acquired	(29,162)	—	(78,376)
Payment of deferred consideration related to business acquisitions	(17,500)	(52,784)	—
Purchase of property and equipment	(13,034)	(35,912)	(16,096)
Net cash used in investing activities	(47,019)	(74,708)	(52,669)
Cash flows from financing activities:			
Proceeds from exercise of common stock options	468	1,019	4,063
Proceeds from exercise of subsidiary stock options	93	549	1,837
Proceeds from debt	—	—	141,000
Payment of debt issuance costs	(808)	—	(2,716)
Proceeds from revolving credit facility	145,000	74,500	75,000
Payment of debt	(12,032)	(12,500)	(81,000)
Repayment of revolving credit facility	—	—	(20,000)
Payment of contingent consideration related to acquisitions	(2,685)	(100)	—
Acquisition of noncontrolling interest	—	—	(147,026)
Acquisition of other noncontrolling interest	—	(373)	(42)
Repurchase of common stock	(18,680)	—	(30,000)
Payments of withholding taxes related to net share settlements of restricted stock	(10,544)	(12,094)	(7,173)
Purchase of redeemable noncontrolling interest related to Polaris	—	(31,979)	—
Series A Convertible Preferred Stock proceeds, net of issuance costs of $1,154	—	—	106,846
Payment to acquire noncontrolling interest	(21,209)	—	—
Principal payments on capital lease obligation	(36)	(89)	(220)
Payment of dividend on Series A Convertible Preferred Stock	(4,184)	(4,184)	(3,127)
Net cash provided by financing activities	75,383	14,749	37,442
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(6,770)	(13,782)	2,677
Net increase (decrease) in cash and cash equivalents and restricted cash	101,488	(5,122)	50,149
Cash, cash equivalents and restricted cash, beginning of year	190,113	195,235	145,086
Cash, cash equivalents and restricted cash, end of year	$ 291,601	$ 190,113	$ 195,235

	Year Ended March 31,		
	2020	2019	2018
Supplemental disclosure of cash flow information:			
Cash paid for interest	$ 17,949	$ 16,900	$ 5,573
Cash receipts from interest	$ 2,500	$ 3,229	$ 4,322
Cash paid for income tax	$ 21,888	$ 23,591	$ 16,116

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the consolidated balance sheets:

	Year Ended March 31,		
	2020	2019	2018
Balance sheet classification			
Cash and cash equivalents	$ 290,837	$ 189,676	$ 194,897
Restricted cash in current assets	659	351	301
Restricted cash in other long-term assets	105	86	37
Total restricted cash	$ 764	$ 437	$ 338
Total cash, cash equivalents and restricted cash	$ 291,601	$ 190,113	$ 195,235

See accompanying notes to consolidated financial statements

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements

(thousands, except share and per share amounts)

(1) Nature of the Business

Virtusa Corporation (the “Company”, “Virtusa”, “we”, “us” or “our”) is a global provider of digital engineering and information technology (“IT”) outsourcing services that accelerate business outcomes for our clients. We support Forbes Global 2000 clients across large, consumer-facing industries like banking, financial services, insurance, healthcare, communications, technology, and media and entertainment, as these clients seek to improve their business performance through accelerating revenue growth, delivering compelling consumer experiences, improving operational efficiencies, and lowering overall IT costs. We provide services across the entire spectrum of the IT services lifecycle, from consulting, to technology and user experience (“UX”) design, development of IT applications, systems integration, digital engineering, testing and business assurance, and maintenance and support services, including cloud, infrastructure and managed services. We help our clients solve critical business problems by leveraging a combination of our distinctive consulting approach, unique platforming methodology, and deep domain and technology expertise.

Our services enable our clients to accelerate business outcomes by consolidating, rationalizing and modernizing their core customer facing processes into one or more core systems. We help organizations realize the benefits of digital transformation (“DT”) and cloud transformation (“CT”) by bringing together digital infrastructure, analytics and intelligence and customer experience by engineering the digital enterprise of tomorrow on the cloud. We deliver cost effective solutions through a global delivery model, applying advanced methods such as Agile, an industry standard technique designed to accelerate application development. We use our Digital Transformation Studio (DTS), which is built by Virtusa’s engineering teams that have decades of industry knowledge and experience. These teams are certified and leverage Virtusa’s industry leading tools and assets, providing speed and transparency. DTS engineering tools drive software development lifecycle (SDLC) automation to improve quality, enabling speed and increasing productivity.

Headquartered in Massachusetts, we have offices throughout the Americas, Europe, Middle East and Asia, with global delivery centers in the United States, India, Sri Lanka, Hungary, Singapore, Poland, Mexico and Malaysia. We also have many employees who work with our clients either onsite or virtually, which offers flexibility for both clients and employees.

(2) Summary of Significant Accounting Policies

(a) Principles of Consolidation

The accompanying financial statements have been prepared on a consolidated basis and reflect the financial statements of Virtusa Corporation and all of its subsidiaries that are directly or indirectly more than 50% owned or controlled. When the Company does not have a controlling interest in an entity, but exerts a significant influence on the entity, the Company applies the equity method of accounting. For those majority-owned subsidiaries that are not 100% owned by the Company, the interests of the minority owners are accounted for as noncontrolling interests.

(b) Use of Estimates

The preparation of financial statements in accordance with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, including the recoverability of tangible assets, disclosure of contingent assets and liabilities as of the date of the financial statements, and the reported amounts of revenue and expenses during the reported period. Management re-evaluates these estimates on an ongoing basis. The most significant estimates relate to the recognition of revenue and profits based on the percentage of completion method of accounting for fixed-price contracts, income taxes, including reserves for uncertain tax positions, deferred taxes and liabilities, intangible assets, valuation of financial instruments including derivative contracts and investments. Management bases its estimates on historical experience and on various other factors and assumptions that are believed to be reasonable under the circumstances. The actual amounts may vary from the estimates used in the preparation of the accompanying consolidated financial statements.

(c) Foreign Currency Translation

The functional currencies of the Company's non-U.S. subsidiaries are the local currency of the country in which the subsidiary operates except for Hungary, which uses the euro and certain Netherlands entities, which use the U.S. dollar. Operating and capital expenditures of the Company's subsidiaries located in India, Sri Lanka, the Netherlands, Australia, Canada, Singapore, Malaysia, the Philippines, Germany, Austria, Sweden and the United Kingdom, are denominated in their local currency which is the currency most compatible with their expected economic results. India and Sri Lanka local expenditures form the underlying basis for intercompany transactions which are subsequently conducted in both U.S. dollars and U.K. pounds sterling. U.K. client sales contracts are primarily conducted in U.K. pounds sterling.

All transactions and account balances are recorded in the functional currency. The Company translates the value of these non-U.S. subsidiaries' local currency denominated assets and liabilities into U.S. dollars at the rates in effect at the balance sheet date. Resulting translation adjustments are recorded in stockholders' equity as a component of accumulated other comprehensive income (loss). The local currency denominated statement of income amounts are translated into U.S. dollars using the average exchange rates in effect during the period. Realized foreign currency transaction gains and losses are included in the consolidated statements of income (loss). The Company's non-U.S. subsidiaries do not operate in "highly inflationary" countries.

(d) Derivative Instruments and Hedging Activities

The Company enters into forward foreign exchange contracts to mitigate the risk of changes in foreign exchange rates on intercompany transactions and forecasted transactions denominated in foreign currencies. The Company also enters into interest rate swaps to mitigate interest rate risk on the Company's variable rate debt. The Company designates derivative contracts as cash flow hedges and any ineffective portions if they satisfy the criteria for hedge accounting. Changes in fair values of derivatives designated as cash flow hedges are deferred and recorded as a component of accumulated other comprehensive income, net of taxes, until the hedged transactions occur and are then recognized in the consolidated statements of income, the effective components are recognized in the same line item as the underlying and any ineffective components would be recognized as other income (expense). Changes in fair value of derivatives not designated as hedging instruments are recognized immediately in the consolidated statements of income.

With respect to derivatives designated as cash flow hedges, the Company formally documents all relationships between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking various hedge transactions. The Company also formally assesses both at the inception of the hedge and on an ongoing basis, whether each derivative will be highly effective in offsetting changes in fair values or cash flows of the hedged item. If the Company determines that a derivative or a portion thereof is not highly effective as a hedge, or if a derivative ceases to qualify for hedge accounting, the Company prospectively discontinues hedge accounting with respect to that derivative.

(e) Cash and Cash Equivalents and Restricted Cash

The Company considers all highly liquid investments with an initial maturity of three months or less from the date of purchase to be cash equivalents. At March 31, 2020, cash equivalents consisted of money market instruments and certificates of deposit. The Company had short-term and long-term restricted cash totaling $764 and $437 at March 31, 2020 and 2019, respectively. Restricted cash includes the restricted deposits with banks to secure the import of computer and other equipment and bank guarantees associated with the purchase of property and equipment of the Company's facilities in India.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

(f) Investment Securities

The Company classifies its investment securities as available for sale securities and equity securities. These securities are classified as short-term investments and long-term investments on the consolidated balance sheet based on their maturity dates and are carried at fair market value. Any unrealized gains and losses on available for sale securities are reported in accumulated other comprehensive income (loss), net of tax, as a separate component of stockholders' equity unless the decline in value is deemed to be other-than-temporary, in which case, investments are written down to fair value and the loss is charged to the consolidated statements of income (loss). Any unrealized gains and losses on equity securities are charged to the consolidated statements of income (loss). The Company determines the cost of the securities sold based on the specific identification method.

The Company conducts a periodic review and evaluation of its investment securities to determine if the decline in fair value of any security is deemed to be other-than-temporary. Other-than-temporary impairment losses are recognized on securities when: (i) the holder has an intention to sell the security; (ii) it is more likely than not that the security will be required to be sold prior to recovery; or (iii) the holder does not expect to recover the entire amortized cost basis of the security. Other-than-temporary losses are reflected in earnings as a charge against gain on sale of investments to the extent the impairment is related to credit losses. The amount of the impairment related to other factors is recognized in other comprehensive income. The Company has no intention to sell any securities in an unrealized loss position at March 31, 2020 nor is it more likely than not that the Company would be required to sell such securities prior to the recovery of the unrealized losses.

(g) Goodwill and Other Intangible Assets

The Company accounts for its business combinations under the acquisition method of accounting. The Company records the assets acquired and liabilities assumed, including any contingent consideration based on their estimated fair values at the date of acquisition. The excess of the purchase price for acquisitions over the fair value of the net assets acquired, including other intangible assets, is recorded as goodwill. Goodwill is not amortized but is tested for impairment at the reporting unit level, defined as the Company level, in the fourth quarter of each fiscal year or more frequently when events or circumstances occur that indicate that it is more likely than not that an impairment has occurred. In assessing goodwill for impairment, an entity has the option to assess qualitative factors to determine whether events or circumstances indicate that it is not more likely than not that fair value of a reporting unit is less than its carrying amount. If this is the case, then performing the quantitative two-step goodwill impairment test is unnecessary. An entity can choose not to perform a qualitative assessment for any or all of its reporting units, and proceed directly to the use of the two-step impairment test. The two-step process begins with an estimation of the fair value of a reporting unit. Goodwill impairment exists when a reporting unit's carrying value of goodwill exceeds its implied fair value. Significant judgment is applied when goodwill is assessed for impairment.

For the Company's goodwill impairment analysis, the Company operates under one reporting unit. Any impairment would be measured based upon the fair value of the related assets. In performing the first step of the goodwill impairment testing and measurement process, the Company compares its entity-wide estimated fair value to net book value to identify potential impairment. Management estimates the entity-wide fair value utilizing the Company's market capitalization, plus an appropriate control premium. Market capitalization is determined by multiplying the shares outstanding on the assessment date by the market price of the Company's common stock. If the fair value of the reporting unit is less than the book value, the second step is performed to determine if goodwill is impaired. If the Company determines through the impairment evaluation process that goodwill has been impaired, an impairment charge would be recorded in the consolidated statement of income. The Company completed the annual impairment test required during the fourth quarter of the fiscal year ended March 31, 2020 and determined that there was no impairment. The Company continues to closely monitor its market capitalization. If the Company's market capitalization, plus an estimated control premium, is below its carrying value for a period considered to be other-than-temporary, it is possible that the Company may be required to record an impairment of goodwill either as a result of the annual assessment that the Company conducts in the fourth quarter of each fiscal year, or in a future quarter if an indication of potential impairment is evident. The estimated fair value of the reporting unit on the assessment date significantly exceeded the carrying book value.

Other intangible assets acquired in a business combination are recognized at fair value using generally accepted valuation methods appropriate for the type of intangible asset and reported separately from goodwill. Other intangible assets acquired in an asset acquisition are recognized using cost accumulation model. Intangible assets with definite lives are amortized over the estimated useful lives and are tested for impairment when events or circumstances occur that indicate that it is more likely than not that an impairment has occurred. The Company tests other intangible assets with definite lives for impairment by comparing the carrying amount to the sum of the net undiscounted cash flows expected to be generated by the asset whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. If the carrying amount of the asset exceeds its net undiscounted cash flows, then an impairment loss is recognized for the amount by which the carrying amount exceeds its fair value.

(h) Fair Value of Financial Instruments

The Company uses a framework for measuring fair value under U.S. generally accepted accounting principles and enhanced disclosures about fair value measurements. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The Company's financial assets and liabilities reflected in the consolidated financial statements at carrying value include marketable securities and other financial instruments which approximate fair value. Fair value for marketable securities is determined using a market approach based on quoted market prices at period end in active markets. The fair value hierarchy is based on three levels of inputs, of which the first two are considered observable and the last unobservable, that may be used to measure fair value which are the following:

- Level 1—Quoted prices in active markets for identical assets or liabilities.
- Level 2—Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

At March 31, 2020 and 2019, the carrying amounts of certain of the Company's financial instruments, including cash and cash equivalents, accounts receivable, unbilled accounts receivable, restricted cash, accounts payable, accrued employee compensation and benefits, other accrued expenses and long-term debt, approximate their fair values due to the nature of the items. See Note 8 to the consolidated financial statements for further information of the fair value of the Company's other financial instruments.

(i) Concentration of Credit Risk and Significant Customers

Financial instruments which potentially expose the Company to concentrations of credit risk are primarily comprised of cash and cash equivalents, investments, derivatives, accounts receivable and unbilled accounts receivable. The Company places its cash, investments and derivatives in highly-rated financial institutions. The Company adheres to a formal investment policy with the primary objective of preservation of principal, which contains credit rating minimums and diversification requirements. Management believes its credit policies reflect normal industry terms and business risk. The Company does not anticipate non-performance by the counterparties and, accordingly, does not require collateral.

(thousands, except share and per share amounts)

At March 31, 2020 and 2019, no client accounted for 10% of gross accounts receivable. Revenue from significant clients as a percentage of the Company's consolidated revenue was as follows:

	Year Ended March 31,		
	2020	2019	2018
Customer A	16 %	18 %	19 %

(j) Property and Equipment

Property and equipment are recorded at cost and depreciated over their estimated useful lives using the straight-line method. Leasehold improvements are amortized over the shorter of their lease term or the estimated useful life of the related asset. Upon retirement or sale, the cost of assets disposed of and the related accumulated depreciation are removed from the accounts and any resulting gain or loss is credited or charged to income. Repair and maintenance costs are expensed as incurred.

(k) Long-Lived Assets

The Company reviews the carrying value of its long-lived assets or asset groups with definite useful lives to be held and used for impairment whenever events or changes in circumstances indicate that the carrying value of these assets may not be recoverable. Recoverability of these assets is measured by a comparison of the carrying value of an asset to the future net undiscounted cash flows directly associated with the asset. If assets are considered to be impaired, the impairment recognized is the amount by which the carrying value exceeds the fair value of the asset. The Company uses a discounted cash flow approach or other methods, if appropriate, to assess fair value.

Long-lived assets to be disposed of by sale are reported at the lower of carrying value or fair value less cost to sell and depreciation is ceased. Long-lived assets to be disposed of other than by sale are considered to be held and used until disposal.

(l) Software Development Costs

The Company capitalizes internally developed software costs incurred during the application development stage, which include costs to design the software configuration and interfaces, coding, installation and testing. Costs incurred during the preliminary project stage, along with post-implementation stages of internal use computer software, are expensed as incurred. Capitalized development costs are typically amortized over the estimated life of the software, typically three to ten years, using the straight line method, beginning with the date that an asset is ready for its intended use. At March 31, 2020 and 2019, capitalized software development costs, which include software development work in progress, were approximately $9,948 and $13,083, respectively. These costs were recorded in property and equipment. For the fiscal years ended March 31, 2020, 2019 and 2018, amortization of capitalized software development costs amounted to approximately $1,392, $1,749, and $2,377, respectively.

The Company also capitalizes implementation costs incurred in a cloud computer hosting arrangement that is a service contract in the same manner as internally developed software. The Company amortizes the capitalized implementation costs of a hosting arrangement that is a service contract over the term of the hosting arrangement. At March 31, 2020, implementation cost capitalized in a hosting arrangement, including work in progress, was approximately $6,581. These costs were recorded in other long-term assets. For the fiscal year ended March 31, 2020, amortization of capitalized hosting arrangement costs amounted to approximately $310 and was recorded in operating expenses.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

(m) Income Taxes

Income taxes are accounted for using the asset and liability method whereby deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled. Changes to enacted tax rates would result in either increases or decreases in the provision for income taxes in the period of changes. The Company evaluates the realizability of deferred tax assets and recognizes a valuation allowance when it is more likely than not that all, or a portion of, deferred tax assets will not be realized.

The calculation of the Company's tax liabilities involves uncertainties in the application of complex tax regulations in multiple jurisdictions. The Company records liabilities for estimated tax obligations in the United States and other tax jurisdictions in which it has operations (see Note 17 to the consolidated financial statements). The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based upon the technical merits of the position. The tax benefit recognized in the financial statements from such a position is measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. Also, interest and penalties expense are recognized on the full amount of deferred benefits for uncertain tax positions. The Company's policy is to include interest and penalties related to unrecognized tax benefits in income tax expense.

(n) Revenue Recognition

The Company accounts for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

Revenues are recognized when control of the promised services is transferred to its customers in an amount that reflects the consideration the Company expects to be entitled to in exchange for those services.

The Company generally recognizes revenue for services over time as the Company's performance creates or enhances an asset that the customer controls from fixed price contracts related to complex design, development and customization. For these contracts, the Company measures the progress and recognizes revenue using effort-based input methods, as the Company performs, based on actual efforts spent compared to the total expected efforts for the contract. The use of the effort based input method requires significant judgment relative to estimating total efforts, including assumptions relative to the length of time to complete the project and the nature and complexity of the work to be performed. Estimates of total efforts are continuously monitored during the term of the contract and are subject to revision as the contract progresses. When revisions in estimated contract revenue and efforts are determined, such adjustments are recorded in the period in which they are first identified. An input method is used to recognize revenue as the value of services provided to the customer is best represented by the hours expended to deliver those services.

The Company generally recognizes revenue for services over time where the Company performance does not create an asset with an alternative use to the Company and the Company has an enforceable right to payment for performance completed to date for fixed-price contracts related to consulting or other IT services. For these contracts, we measure the progress and recognize revenue using effort-based input methods as we perform based on actual efforts spent compared to the total expected efforts for the contract. The cumulative impact of any change in estimates of the contract revenue is reflected in the period in which the changes become known.

The Company generally recognizes revenue for time and material contracts over time as the customer simultaneously receives and consumes the benefits as the Company performs services. The Company either applies the as-invoiced practical expedient to recognize revenues for services rendered on time and material basis, or a method that is otherwise consistent with the way in which value is delivered to the customer.

The Company generally recognizes revenue from fixed-price applications management, maintenance, or support engagements over time as customers receive and consume the benefits of such services and has applied the as-invoiced practical expedient to recognize revenue for services the Company renders to customers based on the amount the Company has a right to invoice, which is representative of the value being delivered. If our invoicing is not consistent with value delivered, revenues are recognized on a straight-line basis unless revenues are earned and obligations are fulfilled in a different pattern.

Contracts are often modified to account for changes in contract specification and requirements. The Company considers a contract modification when the modification either creates new or changes the existing enforceable rights and obligations. The accounting for modifications involves assessing whether the services added to an existing contract are distinct and whether the pricing is at the standalone selling price. Services added that are not distinct are accounted for on a cumulative catch up basis, while those that are distinct are accounted for prospectively, either as a separate contract if the additional services are priced at the standalone selling price, or as a termination of the existing contract and creation of a new contract if not priced at the standalone selling price.

Certain customers may receive discounts, incentive payments or service level credits. A portion of the revenues relating to such arrangements are accounted for as variable consideration when the amount of revenue to be recognized can be estimated to the extent that it is probable that a significant reversal of any revenue will not occur. The Company estimates these amounts based on the expected amount to be provided to customers and adjusts revenues recognized. The Company's estimates the amount of variable consideration and determination of whether to include estimated amounts in the transaction price may involve judgment and are based largely on an assessment of the Company's anticipated performance and all information that is reasonably available to us.

From time to time, the Company may enter into contracts with customers that include multiple performance obligations. For such arrangements, the Company allocates revenue to each performance obligation based on its relative standalone selling price. The Company generally determines standalone selling prices based on an expected cost plus a margin approach.

The Company's warranties generally provide a customer with assurance that the related deliverable will function as the parties intended because it complies with agreed-upon specifications and is therefore not considered as an additional performance obligation in the contract.

When the Company receives consideration from a customer prior to transferring services to the customer under the terms of a contract, the Company records deferred revenue, which represents a contract liability. The Company recognizes deferred revenue as revenue after the Company has transferred control of the services to the customer and all revenue recognition criteria are met. Unbilled accounts receivable represent revenue earned on contracts to be billed, in subsequent periods, as per the terms of the related contracts.

The Company's payment terms vary by the type and location of its customers. The term between invoicing and when payment is due is not significant. As a practical expedient, the Company does not assess the existence of a significant financing component when the difference between payment and transfer of deliverables is one year or less.

Revenue includes reimbursements of travel and out-of-pocket expenses, with equivalent amounts of expense recorded in costs of revenue, of $5,422, $13,271 and $12,924 for the fiscal years ended March 31, 2020, 2019 and 2018, respectively.

Any tax assessed by a governmental authority that is incurred as a result of a revenue transaction (e.g. sales tax) is excluded from the Company's assessment of transaction prices.

(o) Costs of Revenue and Operating Expenses

Costs of revenue consist principally of salaries, employee benefits and share-based compensation expense, reimbursable and non-reimbursable travel costs, subcontractor fees, and immigration related expenses for IT professionals. Selling and marketing expenses are charged to operating expenses as incurred. Selling and marketing expenses are those expenses associated with promoting and selling the Company's services and include such items as sales and marketing personnel salaries, stock compensation expense and related fringe benefits, commissions, travel, and the cost of advertising and other promotional activities. Advertising and promotional expenses incurred were approximately $557, $477 and $306 for the fiscal years ended March 31, 2020, 2019 and 2018, respectively.

General and administrative expenses include other operating items such as officers' and administrative personnel salaries, share-based compensation expense and related fringe benefits, legal and audit expenses, public company related expenses, insurance, facility costs, provision for doubtful accounts, depreciation and amortization, including amortization of purchased intangibles and operating lease expenses.

(p) Other income (expense)

Other income (expense) includes interest income, interest expense, investment gains and losses, foreign currency transaction gains and losses and disposal of fixed assets. We generate interest income by investing in time deposits, money market instruments, short term investments and long-term investments. We incur interest expense primarily from our long-term debt and amortization of our debt issuance cost. The functional currencies of our subsidiaries are their local currencies, except for Hungary which operates in the euro and certain Netherlands entities which operate in the U.S. dollar. Foreign currency gains and losses are generated primarily by fluctuations of the Indian rupee, Sri Lankan rupee, Swedish Krona ("SEK"), euro, U.K. pound sterling and the Singapore dollar, against the U.S. dollar on intercompany transactions. This includes fluctuations on an Indian rupee denominated intercompany note in a U.S. dollar functional currency entity in the Netherlands that was put in place as part of the structuring of the Polaris acquisition. At March 31, 2020, the approximate value of the intercompany note was $267,341 (Indian rupee 20,000,000).

(q) Share-Based Compensation

Share-based compensation cost is determined by estimating the fair value at the grant date of the Company's common stock and expensing the total compensation cost on a straight-line basis over the requisite employee service period or for grants issued with performance conditions, on a graded-vesting basis over the requisite employee service period. The requisite service period is generally between three and four years. The Company changed its accounting policy from estimated forfeitures to actual forfeitures effective April 1, 2017 upon adoption of ASU 2016-09 Accounting

(thousands, except share and per share amounts)

Standard Update (“ASU”) No. 2016-09, Compensation —Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting.

The allocation of total share-based compensation expense between costs of revenue and selling, general and administrative expenses is based on employee classification as follows:

	Year Ended March 31,		
	2020	2019	2018
Costs of revenue	$ 365	$ 499	$ 895
Selling, general and administrative expenses	15,351	28,557	26,516
Total share-based compensation expense	$ 15,716	$ 29,056	$ 27,411

(r) Allowance for Doubtful Accounts

The Company maintains an allowance for doubtful accounts for estimated losses resulting from the inability of clients to make required payments. The allowance for doubtful accounts is determined by evaluating the relative credit worthiness of each client, historical collections experience and other information, including the aging of the receivables. We evaluate the collectability of our accounts receivables on an on-going basis and write-off accounts when they are deemed to be uncollectible.

(s) Leases

The Company’s leased assets primarily consist of operating leases for office space, equipment and vehicles. At the inception of a contract, the Company determines whether a contract contains a lease, and if a lease is identified, whether it is an operating or finance lease. In determining whether a contract contains a lease, the Company considers whether (1) it has the right to obtain substantially all of the economic benefits from the use of the asset throughout the term of the contract, (2) it has the right to direct how and for what purpose the asset is used throughout the term of the contract and (3) it has the right to operate the asset throughout the term of the contract without the lessor having the right to change the terms of the contract. The Company leases vehicles in certain locations primarily as an employee benefit and these leases are classified as either operating or finance leases. The Company does not have finance leases that are material to the Company’s consolidated financial statements. Some of the Company’s lease agreements contain both lease and non-lease components. The Company separates lease components from non-lease components for all the Company’s lease assets. The consideration in the lease contract is allocated to the lease and non-lease components based on the estimated standalone prices. The Company’s lease agreements, mainly for office space, may include options to extend or terminate the lease before the expiration date. The Company includes such options when determining the lease term when it is reasonably certain that the Company will exercise that option.

A portion of the leases for office space contain certain charges for additional rent expenses that are variable. Due to this variability, the cash flows associated with these charges are not included in the minimum lease payments used in determining the right-of-use (“ROU”) lease assets and associated lease liabilities.

The Company’s ROU lease assets represent the Company’s right to use an underlying asset for the lease term and may include any advance lease payments made and any initial direct costs and exclude lease incentives. The Company’s lease liabilities represent the Company’s obligation to make lease payments arising from the contractual terms of the lease. ROU lease assets and lease liabilities are recognized at the commencement of the lease and are calculated using the present value of lease payments over the lease term. The Company’s operating lease agreements do not provide enough information to arrive at an implicit interest rate. Therefore, the Company uses its estimated incremental borrowing rate based on information available at the commencement date of the lease to calculate the present value of the lease payments. The Company determines the incremental borrowing rate on a lease-by-lease basis by developing an estimated borrowing rate of the Company for a fully collateralized obligation with a term similar to the lease term, and adjusts the rate to reflect the incremental risk associated with the currency in which the lease is denominated.

(t) Recent accounting pronouncements

Recently Adopted Accounting Pronouncements

Unless otherwise discussed below, the adoption of new accounting standards did not have an impact on the consolidated financial statements.

In February 2016, the FASB issued an update (ASU 2016-02) to the standard on leases to increase transparency and comparability among organizations. The FASB subsequently issued ASU 2018-10 and ASU 2018-11 in July 2018, ASU 2018-20 in December 2018 and ASU 2019-01 in March 2019, which provide clarifications and improvements to this new standard. ASU 2018-11 also provides the optional transition method which allows companies to apply the new lease standard at the adoption date instead of at the earliest comparative period presented. The new standard replaces the existing guidance on leases and requires the lessee to recognize a right-of-use ("ROU") asset and a lease liability for all leases with lease terms equal to or greater than twelve months. For finance leases, the lessee would recognize interest expense and amortization of the ROU asset, and for operating leases, the lessee would recognize total lease expense on a straight-line basis. For public business entities this standard is effective for the annual periods beginning after December 15, 2018, and interim periods within those annual periods. The standard permits the use of either retrospective to each prior reporting period presented with the cumulative effect of adoption recognized at the beginning of the earliest period presented or retrospective to the beginning of the period of adoption through a cumulative-effect adjustment (the "Modified Retrospective Effective Date Method").

The Company adopted this standard, ("ASC Topic 842") effective April 1, 2019, using a Modified Retrospective Effective Date Method. The Company has elected the package of practical expedients which permits the Company to not reassess prior conclusions related to contracts containing leases, lease classification and initial direct costs. The Company also elected the short-term lease recognition exemption for all classes of lease assets with an original term of twelve months or less. The Company did not elect the use of hindsight practical expedient to reevaluate the lease term of existing contracts. Prior period amounts are not adjusted and continue to be reported in accordance with the Company's historic accounting policies. The impact of adoption primarily relates to the recognition of ROU operating lease assets and operating lease liabilities on the Company's consolidated balance sheets for all operating leases with a term greater than twelve months. The adoption of this standard on April 1, 2019 resulted in the recognition of ROU assets for operating leases of $54,762 and operating lease liabilities of $59,157. The Company's accounting for finance leases (formerly capital leases) remains substantially unchanged. The adoption of this standard did not have an impact on the consolidated statements of income and comprehensive income (loss), consolidated statement of changes in stockholders' equity or the consolidated statement of cash flows.

See Note 9 "Leases" for additional information regarding leases.

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles (Topic 350): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*, which aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. This standard requires customers to amortize the capitalized implementation costs of a hosting arrangement that is a service contract over the term of the hosting arrangement. The standard also requires the entity to present the expense related to the capitalized implementation costs in the same line item in the statement of income as the fees associated with the hosting element (service) of the arrangement and classify payments for capitalized implementation costs in the statement of cash flows in the same manner as payments made for fees associated with the hosting element. The entity is also required to present the capitalized implementation costs in the statement of financial position in the same line item that a prepayment for the fees of the associated hosting arrangement. For public companies, the amendments in this ASU are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019, with early adoption permitted. The Company early adopted this standard, as of July 1, 2019, on a prospective basis for applicable implementation costs. The adoption of this standard did not have a material impact on the consolidated balance sheet, consolidated statements of income, consolidated statement of changes in stockholders' equity or the consolidated statement of cash flows.

New Accounting Pronouncements

Unless otherwise discussed below, the Company believes the impact of recently issued standards that are not yet effective will not have a material impact on its consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, Financial Instruments—Measurement of Credit Losses on Financial Instruments, which modifies the measurement of expected credit losses of certain financial instruments. The FASB subsequently issued ASU 2019-04 in April 2019, ASU 2019-05 in May 2019 and ASU 2019-11 in November 2019 which provide clarifications and improvements to this new standard. The FASB also issued ASU 2019-10 in November 2019, which amends the mandatory effective date for all other than public entities for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. This standard update requires financial assets measured at amortized cost basis to be presented at the net amount expected to be collected. This update is effective for public entities from fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. The effect on the consolidated financial statements will largely depend on the composition and credit quality of our investment portfolio and the economic conditions and forecasts at the time of adoption. Based on the current composition of our investment portfolio, current market conditions, and historical credit loss activity, the impact on our consolidated financial statements and related disclosures is not expected to be material.

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740), which enhances and simplifies various aspects of the income tax accounting guidance, including requirements such as step up in the tax basis of goodwill should be considered part of the business combination in which the book goodwill was originally recognized and when it should be considered a separate transaction, ownership changes in investments, and interim-period accounting for enacted changes in tax law. The standard will be effective for fiscal years beginning after December 15, 2020, including interim periods within those fiscal years. Early adoption is permitted. The Company is currently evaluating the effect of this new standard will have on its consolidated financial statements.

(3) Earnings (loss) per Share

Basic earnings (loss) per share available to Virtusa common stockholders ("EPS") is computed by dividing net income, less any dividends and accretion of issuance cost on the Series A Convertible Preferred Stock by the weighted average number of shares of common stock outstanding for the period. In computing diluted EPS, the Company adjusts the numerator used in the basic EPS computation, subject to anti-dilution requirements, to add back the dividends (declared or cumulative undeclared) applicable to the Series A Convertible Preferred Stock. Such add-back would also include any adjustments to equity in the period to accrete the Series A Convertible Preferred Stock to its redemption price. The Company adjusts the denominator used in the basic EPS computation, subject to anti-dilution requirements, to include the dilution from potential shares resulting from the issuance of restricted stock units, unvested restricted stock and stock options along with the conversion of the Series A Convertible Preferred Stock to common stock. The following table sets forth the computation of basic and diluted EPS for the periods set forth below:

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

The components of basic earnings (loss) per share are as follows:

	Year Ended March 31,		
	2020	2019	2018
Numerators:			
Net income available to Virtusa stockholders	$ 47,902	$ 16,146	$ 1,254
Less: Series A Convertible Preferred Stock dividends and accretion	(4,350)	(4,350)	(3,963)
Net income (loss) available to Virtusa common stockholders	$ 43,552	$ 11,796	$ (2,709)
Denominators:			
Basic weighted average common shares outstanding	30,017,937	29,817,526	29,397,350
Basic earnings (loss) per share available to Virtusa common stockholders	$ 1.45	$ 0.40	$ (0.09)

The components of diluted earnings (loss) per share are as follows:

	Year Ended March 31,		
	2020	2019	2018
Numerators:			
Net income (loss) available to Virtusa common stockholders	$ 43,552	$ 11,796	$ (2,709)
Add : Series A Convertible Preferred Stock dividends and accretion	—	—	—
Net income (loss) available to Virtusa common stockholders and assumed conversion	$ 43,552	$ 11,796	$ (2,709)
Denominators:			
Basic weighted average common shares outstanding	30,017,937	29,817,526	29,397,350
Dilutive effect of Series A Convertible Preferred Stock if converted	—	—	—
Dilutive effect of employee stock options and unvested restricted stock awards and restricted stock units	636,590	842,128	—
Weighted average shares—diluted	30,654,527	30,659,654	29,397,350
Diluted earnings (loss) per share available to Virtusa common stockholders	$ 1.42	$ 0.38	$ (0.09)

During the fiscal years ended March 31, 2020, 2019, and 2018, unvested restricted stock awards and unvested restricted stock units issuable for, and options to purchase, 83,451, 13,336 and 918,305 shares of common stock in the aggregate for such fiscal years, respectively, were excluded from the calculations of diluted earnings per share as their effect would have been anti-dilutive. For the fiscal years ended March 31, 2020 and 2019, all of the 3,000,000 shares of Series A Convertible Preferred Stock were excluded from diluted earnings (loss) per share as their effect would have been anti-dilutive using the if-converted method.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

(4) Business Combinations

Fiscal 2020

During the fiscal year ended March 31, 2020, the Company acquired three individually immaterial businesses with an aggregate purchase price of $29,624 being paid at closing and a deferred consideration of $10,343 payable within a one-year period. The purchase price is also subject to adjustment after the closing of up to an additional $28,853 in contingent consideration, in the aggregate, upon the achievement of certain revenue and operating margin targets. The performance period for these targets are ranging from 12 months to 24 months from the respective acquisition date. As of March 31, 2020, the fair value of contingent consideration for these acquisitions is $25,012. These acquisitions enhanced the breadth and depth of digital offerings and expanded the Company's relationship with certain existing customers.

Under the purchase method of accounting, assets acquired are recorded at their estimated fair values. The Company is in the process of obtaining additional information primarily regarding valuation assumptions, including contingent consideration and may continue to adjust the preliminary estimated fair values after obtaining more information regarding asset valuations and revision of preliminary estimates.

The following table shows the aggregate preliminary purchase price allocation for these acquisitions:

	Amount	Useful Life
Consideration Transferred:		
Cash paid at closing	$ 29,624	
Deferred consideration payable	10,343	
Fair value of contingent consideration	24,964	
Fair value of consideration	64,931	
Less: Cash acquired	(462)	
Total purchase price, net of cash acquired	$ 64,469	
Assets and Liabilities:		
Cash and cash equivalents	462	
Goodwill	27,316	
Customer relationships	37,806	5 -7 years
Other net	(653)	
Total purchase price	$ 64,931	

The primary items that generated goodwill for these acquisitions are the value of the acquired assembled workforce and other benefits expected to result from combining the acquired operations with those of the Company, neither of which qualify as a separate intangible asset.

The acquisitions completed during the fiscal year ended March 31, 2020 were not individually or in the aggregate material to our operations. Accordingly, pro forma results have not been presented.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

Fiscal 2019

None.

Fiscal 2018

To strengthen our digital engineering capabilities and establish a solid base in Silicon Valley, on March 12, 2018, the Company acquired all of the outstanding shares of eTouch Systems Corp ("eTouch US"), and its Indian subsidiary, eTouch Systems (India) Pvt. Ltd ("eTouch India," together with eTouch US, "eTouch") for approximately $140,000 in cash, subject to certain adjustments. As part of the acquisition, the Company set aside up to an additional $15,000 for retention bonuses to be paid to eTouch management and key employees, in equal installments on the first and second anniversary of the transaction. The Company agreed to pay the purchase price in three tranches, with $80,000 million paid at closing, $42,500 on the 12-month anniversary of the close of the transaction, and $17,500 on the 18-month anniversary of the close of the transaction, subject in each case to certain adjustments. During the fiscal year ended March 31, 2019, the Company paid the 12-month anniversary purchase price payment of $42,500 and the retention bonus amount of $7,000 to the eTouch management and key employees. During the fiscal year ended March 31, 2020, we paid the 18-month anniversary purchase price payment of $17,500 and the remaining retention bonus related to the employees.

(5) Goodwill and Intangible Assets

Goodwill:

The Company has one reportable segment at March 31, 2020 and 2019. The following are details of the changes in goodwill balance as of:

	March 31, 2020	March 31, 2019
Beginning balance	$ 279,543	$ 297,251
Goodwill arising from acquisitions	27,316	—
Purchase price adjustment	—	(7,407)
Foreign currency translation adjustments	(10,366)	(10,301)
Ending balance	$ 296,493	$ 279,543

The acquisition costs and goodwill balance deductible for our business acquisitions for tax purposes are $168,493. The acquisition costs and goodwill balance not deductible for tax purposes are $140,903 and relate to the Company's TradeTech acquisition (closed on January 2, 2014), the Polaris acquisition and the eTouch acquisition.

Intangible Assets:

The following are details of the Company's intangible asset carrying amounts acquired and amortization for the fiscal years ended March 31, 2020 and March 31, 2019:

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

	March 31, 2020			
	Weighted Average Useful Life at Acquisition	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Amortizable intangible assets:				
Customer relationships	10.6	$ 176,373	$ 46,494	$ 129,879
Trademark	2.0	900	900	—
Technology	5.0	500	500	—
Other	5.0	1,214	190	1,024
	10.5	$ 178,987	$ 48,084	$ 130,903

	March 31, 2019			
	Weighted Average Useful Life at Acquisition	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Amortizable intangible assets:				
Customer relationships	13.0	$ 125,520	$ 33,679	$ 91,841
Trademark	2.0	900	431	469
Technology	5.0	500	370	130
	12.9	$ 126,920	$ 34,480	$ 92,440

The Company's amortization expense related to intangible assets acquired was $14,675, $11,394 and $10,089 for the fiscal years ended March 31, 2020, 2019 and 2018, respectively. The components included in the gross carrying amounts of amortization expense in the table above reflect the Company's acquisitions during the fiscal year ended March 31, 2020 and the Company's previous acquisitions. The intangible assets are being amortized on either a straight-line basis or using the most appropriate economic pattern of consumption over their estimated useful lives.

During the fiscal year ended March 31, 2020, the Company acquired certain assets of three consulting companies located in the United States, which were accounted as asset acquisitions and were not material to the Company. The purchase price was approximately $9,651 in cash and an additional earn-out consideration of up to $9,853 payable within one year based on achievement of certain revenue targets. During the fiscal year ended March 31, 2020, the Company paid $3,736 towards earn-out consideration based on achievement of revenue targets for the first measurement period. The remaining probable and estimable value of the contingent consideration as of March 31, 2020 is $3,994.

The estimated amortization expense related to the purchased intangible assets listed in the table above at March 31, 2020 is as follows for the following fiscal years:

Fiscal year	Amount
2021	$ 18,292
2022	18,703
2023	18,744
2024	18,310
2025	16,158
Thereafter	40,696
Total	$ 130,903

(6) Investment Securities

At March 31, 2020 and 2019, all of the Company's investment securities were classified as available-for-sale debt securities, time deposits and equity securities. These were carried on its balance sheet at their fair market value. A

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

fair market value hierarchy based on three levels of inputs was used to measure each security (See Note 8 to our consolidated financial statements for a discussion of the fair value of the Company's other financial instruments).

The following is a summary of investment securities at March 31, 2020:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Time Deposits:				
Current	$ 3,927	$ —	—	$ 3,927
Equity securities:				
Mutual funds:				
Current	5,623	235	—	5,858
Equity Shares/ Options:				
Non-current	1	3	—	4
Total investment securities	$ 9,551	$ 238	$ —	$ 9,789

The following is a summary of investment securities at March 31, 2019:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Available-for-sale debt securities:				
Corporate bonds:				
Current	$ 2,779	$ 1	$ (2)	$ 2,778
Non-current	—	—	—	—
Preference shares:	188	—	—	188
Agency and short-term notes:				
Current	1,492	1	—	1,493
Time deposits:				
Current	15,861	—	—	15,861
Equity securities:				
Mutual funds:				
Current	12,912	94	—	13,006
Equity Shares/ Options:				
Non-current	8	126	—	134
Total investment securities	$ 33,240	$ 222	$ (2)	$ 33,460

The Company evaluates investments with unrealized losses to determine if the losses are other than temporary. In making this determination, the Company considered the financial condition, credit ratings and near-term prospects of the issuers, the underlying collateral of the investments, and the magnitude of the losses as compared to the cost and the length of time the investments have been in an unrealized loss position. Additionally, while the Company classifies the securities as available for sale, the Company does not currently intend to sell such investments and it is more likely than not that the Company will not be required to sell such investments prior to the recovery of their carrying value.

During the fiscal year ending March 31, 2019, the issuer of the Company's investment in preference shares began showing signs of financial distress. This included down-grades to its credit rating and a decrease in trading activity and market pricing for this security. Due to the uncertainty in recovering the amortized cost of this security, the Company has determined the unrealized losses are other-than-temporary and recorded the impairment in earnings. The Company has determined that other unrealized losses at March 31, 2020 and 2019 are temporary.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

The following is a summary of other-than-temporary impairment unrealized losses recognized during the fiscal year ended March 31, 2020:

	Year Ended March 31, 2020	Year Ended March 31, 2019
Unrealized losses recognized in other comprehensive income (loss) beginning balance	$ —	$ 70
Add: unrealized losses recognized	184	1,341
Less: Other-than-temporary impairment recognized in earnings	(184)	(1,411)
Unrealized losses in other comprehensive income (loss) ending balance	$ —	$ —

The following tables show the gross unrealized losses and fair value of the Company's investment securities with unrealized losses that are not deemed to be other-than-temporarily impaired, aggregated by investment category and length of time that individual securities have been in a continuous unrealized loss position at March 31, 2020 and 2019:

Less Than 12 Months

	Fair Value	Gross Unrealized Loss
Available-for-sale debt securities at March 31, 2020:		
Corporate bonds	$ —	$ —
Agency bonds	—	—
Preference shares	—	—
Total	$ —	$ —
Available-for-sale debt securities at March 31, 2019:		
Corporate bonds	$ 253	$ —
Agency bonds	—	—
Mutual funds	—	—
Total	$ 253	$ —

Greater Than 12 Months

	Fair Value	Gross Unrealized Loss
Available-for-sale debt securities at March 31, 2020:		
Corporate bonds	$ —	$ —
Agency bonds	—	—
Preference shares	—	—
Total	$ —	$ —
Available-for-sale debt securities at March 31, 2019:		
Corporate bonds	$ 2,297	$ (2)
Agency bonds	—	—
Preference shares	—	—
Total	$ 2,297	$ (2)

At March 31, 2020, there were no investment securities owned by the Company for which the fair value was less than the carrying value for a period greater than 12 months.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

Available-for-sale debt securities, time deposits and equity securities by contractual maturity were as follows:

	March 31, 2020
Due in one year or less	$ 9,785
Due after 1 year through 5 years	4
Due after 5 years	—
Total	$ 9,789

Proceeds from sales of available-for-sale debt securities and equity securities and the gross gains and losses that have been included in earnings as a result of those sales were as follows:

	Year Ended March 31,		
	2020	2019	2018
Proceeds from sales or maturities of available-for-sale debt securities and equity securities	$ 58,408	$ 109,512	$ 158,800
Gross gains	$ 679	$ 1,023	$ 1,655
Gross losses	—	(13)	(127)
Net realized gains on sales of available-for-sale debt securities and equity securities	$ 679	$ 1,010	$ 1,528

(7) Investments in Unconsolidated Affiliates

Investments in entities in which the Company owns between 20% and 50% of the voting interest or otherwise acquires management influence are accounted for using the equity method and initially recognized at cost. Under the equity method, the Company's share of the post-acquisition profits and losses is recognized in the Consolidated Statements of Income. As of March 31, 2020, through its Polaris subsidiary, the Company owns a 50% interest in Intellect Polaris Design LLC, an LLC which holds certain real estate in New Jersey, which is being accounted for using the equity method of accounting. As of March 31, 2020, the difference between the carrying amount and our equity in net assets of this investment was $735. This is due to fair value measurement of the investment upon the Polaris acquisition.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

(8) Fair Value of Financial Instruments

The Company carries certain assets and liabilities at fair value on a recurring basis on its consolidated balance sheets. The following table summarizes the Company's financial assets and liabilities measured at fair value on a recurring basis at March 31, 2020

	Level 1	Level 2	Level 3	Total
Assets:				
Investments:				
Time deposits—current	$ —	$ 3,927	—	$ 3,927
Equity securities—current	—	5,858	—	5,858
Equity securities—non-current	—	4	—	4
Derivative financial instruments:				
Foreign currency derivative contracts—current	—	103	—	103
Foreign currency derivative contracts—non-current	—	56	—	56
Interest rate swap contracts	—	—	—	—
Total assets	$ —	$ 9,948	$ —	$ 9,948
Liabilities:				
Foreign currency derivative contracts—current	—	3,689	—	3,689
Foreign currency derivative contracts—non-current	—	364	—	364
Interest rate swap contracts—non-current	—	11,128	—	11,128
Contingent consideration	—	—	25,012	25,012
Total liabilities	$ —	$ 15,181	$ 25,012	$ 40,193

The Company estimates the fair value of our contingent consideration associated with our business combinations utilizing one or more significant inputs that are unobservable. The Company calculates the fair value of the contingent consideration based on the probability-weighted expected performance of the acquired business against the target performance metric, discounted to present value when appropriate.

The following table summarizes the Company's financial assets and liabilities measured at fair value on a recurring basis at March 31, 2019

	Level 1	Level 2	Level 3	Total
Assets:				
Investments:				
Available-for-sale debt securities—current	$ —	$ 4,271	—	$ 4,271
Time deposits—current	—	15,861	—	15,861
Equity securities—current	—	13,006	—	13,006
Available-for-sale debt securities—non-current	—	188	—	188
Equity securities—non-current	—	134	—	134
Derivative financial instruments:				
Foreign currency derivative contracts—current	—	3,264	—	3,264
Foreign currency derivative contracts—non-current	—	147	—	147
Interest rate swap contracts—non-current	—	1,349	—	1,349
Total assets	$ —	$ 38,220	$ —	$ 38,220
Liabilities:				
Foreign currency derivative contracts—current	$ —	318	$ —	318
Foreign currency derivative contracts—non-current	—	3	$ —	3
Interest rate swap contracts—non-current	—	3,633	—	3,633
Total liabilities	$ —	$ 3,954	$ —	$ 3,954

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

(9) Leases

The following table provides information on the components of the Company's operating leases included in the consolidated balance sheets:

Leases	**Location on Consolidated Balance Sheets**		**March 31, 2020**
Assets			
Operating lease assets	Operating lease right-of-use of assets	$	48,684
Liabilities			
Current			
Operating lease liabilities	Operating lease liabilities	$	11,543
Noncurrent			
Operating lease liabilities	Operating lease liabilities, noncurrent	$	41,697
	Total	$	53,240

The following table provides the components of lease expense related to our operating leases:

	Location on Consolidated Statements of Income		**Year Ended March 31, 2020**
Operating lease cost:			
Operating lease cost	Selling, general and administrative expenses	$	15,246
Variable lease cost	Selling, general and administrative expenses	$	116
Short-term lease cost	Selling, general and administrative expenses	$	557
Less: Sublease income	Selling, general and administrative expenses	$	(1,222)
Total operating lease cost		$	14,697

The following table provides supplemental cash flow information related to our operating leases:

		Year Ended March 31, 2020
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows used for operating leases	$	14,870
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	$	7,968

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

The Company's leases have remaining lease terms ranging from 1 year to 9 years. The following table provides information on the weighted average remaining lease term and weighted average discount rate related to our operating leases:

	March 31, 2020
Weighted average remaining lease term, in years:	
Operating leases	5.39
Weighted average discount rate:	
Operating leases	7.56 %

There were no lease agreements that contained restrictive covenants or material residual value guarantees as of March 31, 2020.

The following table provides the schedule of maturities of the Company's operating lease liabilities, under ASC Topic 842, as of March 31, 2020:

	Operating leases March 31, 2020
2021	$ 15,103
2022	13,829
2023	11,076
2024	7,274
2025	4,902
2026 and thereafter	12,231
Total lease payments	$ 64,415
Interest	(11,175)
Total lease liabilities	$ 53,240

The following table provides the schedule of the Company's future minimum payments on its operating leases at March 31, 2019, which were accounted for in accordance with its historic accounting policies under ASC Topic 840.

	Operating leases March 31, 2019
2020	$ 14,685
2021	13,895
2022	12,663
2023	9,879
2024	5,686
2025 and thereafter	16,761
Total lease payments	$ 73,569

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

Total rent expense for operating leases recognized during the fiscal year ended March 31, 2019 and 2018 was approximately $14,569 and $12,011.

As of March 31, 2020, the Company had committed to payments of $297 related to operating leases that had yet to commence and therefore are not included in consolidated balance sheets. These leases will commence on various dates in the calendar year 2020 and have lease terms ranging from 2 years to 5 years.

10) Revenues

The table below presents disaggregated revenues from the Company's contracts with customers by geography, industry groups, service offerings and contract-type. The Company believes this disaggregation best depicts how the nature, amount, timing and uncertainty of its revenues and cash flows are affected by industry, market and other economic factors.

	Year Ended March 31,	
Revenue by geography:	**2020**	**2019**
North America	$ 968,117	$ 884,114
Europe	230,965	261,967
Rest of World	113,201	101,782
Consolidated revenue	$ 1,312,283	$ 1,247,863

	Year Ended March 31,	
Revenue by customer's industry groups	**2020**	**2019**
Banking, Financial Services and Insurance	$ 752,965	$ 776,955
Communications and Technology	449,661	360,967
Media & Information and Other	109,657	109,941
Consolidated revenue	$ 1,312,283	$ 1,247,863

	Year Ended March 31,	
Revenue by service offerings	**2020**	**2019**
Application outsourcing	$ 729,821	$ 672,636
Consulting	582,462	575,227
Consolidated revenue	$ 1,312,283	$ 1,247,863

	Year Ended March 31,	
Revenue by contract type	**2020**	**2019**
Time-and-materials	$ 771,312	$ 738,309
Fixed-price*	540,971	509,554
Consolidated revenue	$ 1,312,283	$ 1,247,863

*Fixed-price includes both retainer-billing basis and fixed-price progress towards completion

Receivables and Contract Balances

The Company classifies its right to consideration in exchange for deliverables as either a receivable or a contract asset. A receivable is a right to consideration that is unconditional (i.e. only the passage of time is required before payment

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

is due). The Company presents such receivables in accounts receivable or unbilled accounts receivable, in its consolidated statements of financial position at their net estimated realizable value.

Contract assets included in unbilled accounts receivable are recorded when services have been provided but the Company does not have an unconditional right to receive consideration. Contracts assets are primarily related to unbilled amounts on fixed-price contracts utilizing the input method of revenue recognition. The timing between services rendered and timing of payment is less than one year. The Company recognizes an impairment loss when the contract carrying amount is greater than the remaining consideration receivable, less directly related costs to be incurred.

The table below shows significant movements during the fiscal year ended March 31, 2020 and 2019 in contract assets:

	March 31, 2020	March 31, 2019
Beginning balance	$ 18,538	$ 15,998
Revenues recognized during the period but not yet billed	85,432	120,536
Amounts billed	(89,483)	(117,687)
Other	(246)	(309)
Ending balance	$ 14,241	$ 18,538

Contract liabilities comprise amounts billed to customers for revenues not yet earned. Such amounts are anticipated to be recorded as revenues when services are performed in subsequent periods.

The table below shows significant movements in the deferred revenue balances during the fiscal year ended March 31, 2020 and 2019:

	March 31, 2020	March 31, 2019
Beginning balance	$ 6,421	$ 7,908
Amounts billed but not yet recognized as revenues	7,308	5,844
Revenues recognized related to the opening balance of deferred revenue	(5,462)	(6,906)
Other	(213)	(425)
Ending balance	$ 8,054	$ 6,421

Remaining performance obligation

ASC Topic 606 - Revenue from Contracts with Customers requires that the Company discloses the aggregate amount of transaction price that is allocated to performance obligations that have not yet been satisfied as of March 31, 2020. This disclosure is not required for:

(1) contracts with an original duration of one year or less, including contracts that can be terminated for convenience without a substantive penalty,
(2) contracts for which the Company recognizes revenues based on the right to invoice for services performed,
(3) variable consideration allocated entirely to a wholly unsatisfied performance obligation or to a wholly unsatisfied promise to transfer a distinct good or service that forms part of a single performance obligation in accordance with ASC 606-10-25-14(b), for which the criteria in ASC 606- 10-32-40 have been met, or
(4) variable consideration in the form of a sales-based or usage-based royalty promised in exchange for a license of intellectual property.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

Many of the Company's performance obligations meet one or more of these exemptions. As of March 31, 2020, the aggregate amount of transaction price allocated to remaining performance obligations, other than those meeting the exclusion criteria above, was $36,302 and will be recognized as revenue within 5 years.

From time to time, the Company enters into arrangements to deliver IT services that include upfront payments to its clients. As of March 31, 2020, the total unamortized upfront payments related to these services were $32,244 and are recorded in prepaid expenses and other long-term assets in the consolidated balance sheet. These upfront payments are expected to be amortized as a reduction to revenue over a benefit period of 5 years.

Costs to obtain and fulfill

The Company's costs to obtain contracts are generally expensed as incurred, as the liability is not solely a result of obtaining the contract. The costs to obtain contracts are triggered by multiple conditions such as being contingent on future performance, including continued employment and revenue recognized associated with the contract.

The Company's recurring operating costs for contracts with customers are recognized as expense as incurred. Certain eligible costs incurred in the initial phases of the Company's application maintenance, business process outsourcing and infrastructure services contracts (i.e. set-up or transition costs) are capitalized when such costs (1) relate directly to the contract, (2) generate or enhance resources of the Company that will be used in satisfying the performance obligation in the future, and (3) are expected to be recovered. These costs are expensed ratably over the estimated life of the customer relationship, including expected renewals. In determining the estimated life of the customer relationship, the Company evaluates the contract term, the expected life of the enhanced assets as well as the rate of technological and industry change. Capitalized amounts are monitored regularly for impairment. Impairment losses are recorded when projected remaining undiscounted operating cash flows are not sufficient to recover the carrying amount of the capitalized costs to fulfill.

The following table presents information related to the capitalized costs to fulfill, such as set-up or transition activities, for the fiscal years ended March 31, 2020 and 2019:

	March 31, 2020	March 31, 2019
Beginning balance	$ 4,299	$ 4,278
Costs capitalized	391	2,382
Amortization expense	(2,251)	(2,248)
Foreign currency translation adjustments	(158)	(113)
Ending balance	$ 2,281	$ 4,299

Costs to fulfill are recorded in "Other current assets" and "Other long-term assets" in the consolidated balance sheets.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

(11) Property and Equipment

Property and equipment and their estimated useful lives in years consist of the following:

	Estimated Useful Life (Years)	March 31, 2020	March 31, 2019
Computer and other equipment	3 - 5	$ 61,653	$ 60,771
Furniture and fixtures	7	16,122	15,764
Vehicles	3 - 5	806	1,232
Software	3 - 10	17,856	24,752
Leasehold improvements	Shorter of the lease period or estimated useful life	14,404	14,642
Buildings	15 - 30	29,602	31,813
Land		42,483	45,765
Capital work-in-progress		1,329	4,269
		$ 184,255	$ 199,008
Less—accumulated depreciation and amortization		83,005	79,143
Property and equipment, net		$ 101,250	$ 119,865

Depreciation and amortization expense for the fiscal years ended March 31, 2020, 2019 and 2018 was $17,614, $17,174 and $17,448, respectively. Capital work-in-progress represents advances paid towards the acquisition of property and equipment, and the cost of property and equipment including internally developed software not placed in service before the balance sheet date.

(12) Asset Held for Sale

During the fiscal year ended March 31, 2019, the Company recorded an impairment loss of $3,955 relating to the reclassification of land acquired in the Polaris acquisition to held for sale. The decision to sell this land was made as part of our annual planning process where the Company evaluated strategic alternatives to maximize return on the Company's cash and assets. The reclassification to held for sale triggered a reduction in value to $8,334, which represents the lower of net book value and market value at March 31, 2020. The Company is actively marketing this land for sale and expects to complete a transaction during the fiscal year March 31, 2021.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

(13) Accrued Expenses and Other

Accrued expenses and other consists of the following:

	March 31, 2020	March 31, 2019
Accrued other taxes	$ 7,373	$ 9,177
Accrued professional fees	29,566	21,908
Acquisition related liabilities	29,523	18,519
Hedge liability	3,689	527
Accrued discounts	12,268	9,055
Accrued employee travel and other expense	7,327	5,303
Accrued other	5,378	5,561
Total	$ 95,124	$ 70,050

(14) Debt

On February 6, 2018, the Company entered into a credit agreement (the "Credit Agreement") dated as of February 6, 2018, by and among the Company, its guarantor subsidiaries party thereto, the lenders party thereto, JPMorgan Chase Bank, N.A., as administrative agent, and Merrill Lynch, Pierce, Fenner & Smith Incorporated, as joint book runners and lead arrangers. The Credit Agreement replaced the prior $300,000 credit agreement with J.P. Morgan Securities and Merrill Lynch, Pierce, Fenner & Smith Incorporated. and provided for a $200,000 revolving credit facility, a $180,000 term loan facility, and a $70,000 delayed-draw term loan. The Company drew down $180,000 under the term loan of the Credit Agreement and $55,000 under the revolving credit facility under the Credit Agreement to repay in full the amount outstanding under the prior credit agreement and fund the Polaris delisting transaction (See Note 20 to our consolidated financial information for additional information). On March 12, 2018, we drew down the $70,000 delayed draw to fund the eTouch Systems Corp. acquisition.

On October 15, 2019, the Company entered into Amendment No. 2 to Amended and Restated Credit Agreement with JPMorgan Chase Bank, N.A. (the "Administrative Agent") and the lenders party thereto (the "Second Credit Agreement Amendment"), which amends the Company's Amended and Restated Credit Agreement, dated as of February 6, 2018, with such parties (the "Credit Agreement") to, among other things, increase the revolving commitments available to the Company under the Credit Agreement from $200,000 to $275,000, reduce the interest rate margins applicable to term loans and revolving loans outstanding under the Credit Agreement from time to time and reduce the commitment fee payable by the Company to the lenders in respect of unused revolving commitments under the Credit Agreement. The Company executed the Second Credit Agreement Amendment to provide additional lending capacity which the Company used to fund the completion of the Polaris delisting transaction, as well as to provide excess lending capacity in the event of future opportunistic, strategic, investment opportunities. The Second Credit Agreement Amendment contains customary terms for amendments of this type, including representations, warranties and covenants. Interest under the credit facility accrues at a rate per annum of LIBOR plus 2.75%, subject to step-downs based on the Company's ratio of debt to EBITDA. For the fiscal year ending March 31, 2021, the Company is required to make principal payments of $4,336 per quarter. The term of the Credit Agreement is five years ending February 6, 2023. During the fiscal year ended March 31, 2020, the Company drew down $145,000 from the credit facility, inclusive of $84,000 drawn in the three months ended March 31, 2020 to supplement its liquidity and working capital in light of the uncertainty resulting from the COVID-19 pandemic. Earlier draws in the fiscal year March 31, 2020 were used to fund the eTouch 18-month anniversary payment of $17,500 and to fund opportunistic, strategic, investment opportunities. At March 31, 2020, the total outstanding amount under the Credit Agreement was $499,969. At March 31, 2020, the weighted average interest rate on the term loan and revolving line of credit was 3.18%.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

The Credit Facility is secured by substantially all of the Company's assets, including all intellectual property and all securities in domestic subsidiaries (other than certain domestic subsidiaries where the material assets of such subsidiaries are equity in foreign subsidiaries), subject to customary exceptions and exclusions from the collateral. All obligations under the Credit Agreement are unconditionally guaranteed by substantially all of the Company's material direct and indirect domestic subsidiaries, with certain exceptions. These guarantees are secured by substantially all of the present and future property and assets of the guarantors, with certain exclusions.

In July 2016 and November 2018, the Company entered into interest rate swap transactions to mitigate Company's interest rate risk on Company's variable rate debt (See Note 24 to the consolidated financial statements). The Credit Agreement includes maximum debt to earnings before interest, taxes, depreciation and amortization ("EBITDA") and minimum fixed charge coverage covenants. An event of default under the Credit Agreement includes customary events of default and failure to comply with financial covenants, including a maximum consolidated leverage ratio commencing on December 31, 2017, of not more than 3.50 to 1.00 for periods ending prior to December 31, 2019, of not more than 3.25 to 1.00 commencing December 31, 2019 and for periods ending prior to September 30, 2020, and 3.00 to 1.00 thereafter and a minimum consolidated fixed charge coverage ratio of 1.25 to 1.00. At March 31, 2020, the Company is in compliance with its debt covenants.

Current portion of long-term debt

The following summarizes our short-term debt balance as of:

	March 31, 2020	March 31, 2019
Term loan- current maturities	$ 17,344	$ 12,500
Less: deferred financing costs, current	(1,301)	(1,093)
Total	$ 16,043	$ 11,407

Long-term debt, less current portion

The following summarizes our long-term debt balance as of:

	March 31, 2020	March 31, 2019
Term loan	$ 225,469	$ 237,500
Borrowings under revolving credit facility	274,500	129,500
Less:		
Current maturities	(17,344)	(12,500)
Deferred financing costs, long-term	(2,471)	(3,180)
Total	$ 480,154	$ 351,320

The following represents the schedule of maturities of long-term debt:

Fiscal year ending March 31 :	March 31, 2020
2021	$ 17,344
2022	23,125
2023	459,500
Total	$ 499,969

Beginning in fiscal 2009, the Company's U.K. subsidiary entered into an agreement with an unrelated financial institution to sell, without recourse or continuing involvement, certain of its European-based accounts receivable balances from one client to such third party financial institution. During the course of the fiscal year ended March 31, 2020, $30,702 of receivables were sold under the terms of the financing agreement. Fees paid pursuant to this agreement were immaterial during the fiscal year ended March 31, 2020. No amounts were due as of March 31, 2020, but the Company may elect to use this program again in future periods. However, the Company cannot provide any assurances that this or any other financing facilities will be available or utilized in the future.

(15) Series A Convertible Preferred Stock

On May 3, 2017, the Company entered into an investment agreement with The Orogen Group (‘‘Orogen’’) pursuant to which Orogen purchased 108,000 shares of the Company’s newly issued Series A Convertible Preferred Stock, initially convertible into 3,000,000 shares of common stock, for an aggregate purchase price of $108,000 with an initial conversion price of $36.00 (the ‘‘Orogen Preferred Stock Financing’’). Under the terms of the investment, the Series A Convertible Preferred Stock has a 3.875% dividend per annum, payable quarterly in additional shares of common stock and/or cash at the Company’s option. If any shares of Series A Convertible Preferred Stock have not been converted into common stock prior to May 3, 2024, the Company will be required to repurchase such shares at a repurchase price equal to the liquidation preference of the repurchased shares plus the amount of accumulated and unpaid dividends thereon. If the Company fails to effect such repurchase, the dividend rate on the Series A Convertible Preferred Stock will increase by 1% per annum and an additional 1% per annum on each anniversary of May 3, 2024 during the period in which such failure to effect the repurchase is continuing, except that the dividend rate will not increase to more than 6.875% per annum.

In connection with the issuance of the Series A Convertible Preferred Stock, the Company incurred direct and incremental expenses of $1,154, including financial advisory fees, closing costs, legal expenses and other offering-related expenses. These issuance costs are recorded as a reduction to the proceeds received from issuance of Series A Convertible Preferred Stock. These direct and incremental expenses reduced the Series A Convertible Preferred Stock, and will be accreted through retained earnings as a deemed dividend from the date of issuance through the first possible known redemption date, May 3, 2024. During the fiscal year ended March 31, 2020 and 2019, the Company recorded accretions to the Series A Convertible Preferred Stock related to its issuance cost. Holders of Series A Convertible Preferred Stock are entitled to a cumulative dividend at the rate of 3.875% per annum, payable quarterly in arrears. During the fiscal year ended March 31, 2020 and 2019 the Company has paid $4,184 required cash dividends on its Series A Convertible Preferred Stock. As of March 31, 2020 and 2019, the Company had declared and accrued dividends of $686 associated with the Series A Convertible Preferred Stock.

(16) Stock-Based Compensation Plans

The Company’s Amended and Restated 2000 Stock Option Plan (the “2000 Plan”) was adopted in the fiscal year ended March 31, 2001. Under the 2000 Plan, shares were reserved for issuance to the Company’s employees, directors, and consultants. In May 2007, the Company’s board of directors determined that no further grants would be made under the 2000 Plan. As of March 31, 2020, there were no shares reserved for issuance under this plan.

The Company’s board of directors and its stockholders approved the Company’s 2007 Stock Option and Incentive Plan (the “2007 Plan”), in May 2007, and the stockholders of the Company again approved the 2007 Plan in September 2008. The 2007 Plan permits the Company to make grants of incentive stock options, non-qualified stock options, stock appreciation rights, deferred stock awards, restricted stock awards, unrestricted stock awards, and dividend equivalent rights. The Company reserved 830,670 shares of its common stock for the issuance of awards under the 2007 Plan. The 2007 Plan provides that the number of shares reserved and available for issuance under the plan will be automatically increased each April 1, beginning in 2008, by 2.9% of the outstanding number of shares of common stock on the immediately preceding March 31 or such lower number of shares of common stock as determined by the board of directors. This number is subject to adjustment in the event of a stock split, stock dividend or other change in the Company’s

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

capitalization. Generally, shares that are forfeited, cancelled or withheld to settle tax liabilities from awards under the 2007 Plan also will be available for future awards. In addition, available shares under the 2000 Plan and the Stock Appreciation Rights Plan, as a result of the forfeiture, expiration, cancellation, termination or net issuances of awards, are automatically made available for issuance under the 2007 Plan. In May 2015, the Company's board of directors determined that no further grants would be made under the 2007 Plan.

In May 2015, the Company adopted the 2015 Stock Option and Incentive Plan ("2015 Plan") which was also approved the Company's stockholders on September 1, 2015. The 2015 Plan replaces the 2007 Plan and permits the granting of incentive stock options, non-qualified stock options, restricted stock awards, restricted stock units, unrestricted stock awards, performance share awards, performance-based awards to covered employees, cash-based awards and dividend equivalent rights. Stock options, restricted stock and restricted stock units generally vest over four years. Performance share awards and performance-based awards generally vest over three years. The Company reserved 3,000,000 shares of its common stock for the issuance of awards under the 2015 Plan as well as the number of shares of stock as is equal to the shares underlying any stock options and awards that are returned to the Company's 2007 Plan after the 2015 Plan's effective date as a result of the expiration, forfeiture, acquisition by the Company prior to vesting, cancellation or termination of such stock options and awards (other than by exercise) as set forth in the 2007 Plan. Additionally, shares that are forfeited or cancelled or otherwise terminated (other than by exercise) or held back by the Company or tendered by the grantee of any equity award to settle applicable taxes on any equity award under the 2015 Plan shall be added back to the shares of common stock available for future issuance under the 2015 Plan. At March 31, 2020, the number of shares reserved for issuance under the 2015 Plan was 945,643.

The following tables summarize stock option and restricted stock activity under the 2000 Plan, the 2007 Plan and the 2015 Plan, as the case may be, for the fiscal years ended March 31, 2020, 2019 and 2018:

	Stock Option Activity			
	Number of Options to Purchase Common Shares	Weighted Average Exercise Price	Weighted Average Remaining Life (in years)	Aggregate Intrinsic Value
Outstanding at March 31, 2017	569,661	$ 13.31		
Granted	—	—		
Exercised	(322,317)	12.60		
Forfeited or cancelled	—	—		
Outstanding at March 31, 2018	247,344	14.24		
Granted	—	—		
Exercised	(101,618)	10.02		
Forfeited or cancelled	—	—		
Outstanding at March 31, 2019	145,726	17.18		
Granted	—	—		
Exercised	(31,830)	14.69		
Forfeited or cancelled	—	—		
Outstanding at March 31, 2020	113,896	$ 17.87	2.01	$ 1,261
Exercisable at March 31, 2020	113,896	$ 17.87	2.01	$ 1,261

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

	Restricted Stock Award Activity	
	Number of Restricted Stock Awards	Weighted Average Grant Date Fair Value
Unvested at March 31, 2017	217,560	$ 35.55
Awarded	—	—
Vested	(126,843)	32.64
Forfeited	(15,090)	37.55
Unvested at March 31, 2018	75,627	40.04
Awarded	—	—
Vested	(57,822)	37.93
Forfeited	(3,786)	45.88
Unvested at March 31, 2019	14,019	47.17
Awarded	—	—
Vested	(14,019)	47.17
Forfeited	—	—
Unvested at March 31, 2020	—	$ —

	Restricted Stock Unit Activity	
	Number of Restricted Stock Units	Weighted Average Grant Date Fair Value
Unvested at March 31, 2017	1,979,616	$ 27.29
Awarded	731,363	35.99
Vested	(436,225)	39.14
Forfeited	(752,765)	25.06
Unvested at March 31, 2018	1,521,989	29.18
Awarded	775,532	46.27
Vested	(612,854)	30.11
Forfeited	(291,547)	31.66
Unvested at March 31, 2019	1,393,120	37.76
Awarded	761,467	41.38
Vested	(704,207)	37.87
Forfeited	(100,216)	43.82
Unvested at March 31, 2020	1,350,164	$ 39.30

Under the restricted stock unit plan, the Company granted both service condition awards and performance condition awards. Performance awards are contingent upon meeting various departmental or company-wide performance goals in addition to service conditions. Stock compensation is recognized over the vesting period based on the probability of achievement of the performance condition. As of March 31, 2020, 315,780 performance shares granted are not expected to vest and therefore no compensation expense has been recorded.

The aggregate intrinsic value of options exercised during the fiscal years ended March 31, 2020, 2019 and 2018 was $888, $4,215 and $7,816, respectively. There were no options granted during the fiscal year ended March 31, 2020, 2019 or 2018. During the fiscal years ended March 31, 2020, 2019 and 2018, the Company realized $1,024, $3,388 and $1,481 respectively, of income tax (expense) benefits from the exercise of stock options and vesting of restricted stock as a windfall (shortfall). The Company adopted ASU 2016-09 on April 1, 2017. All excess tax benefits and all tax deficiencies are recognized as income tax expense or benefit in the consolidated statement of income for the fiscal year ending March 31, 2020.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

As of March 31, 2020, there was $18,629 of total unrecognized compensation cost related to unvested stock options, restricted stock awards, deferred stock awards and restricted stock units granted under the Company's 2007 Stock Option and Incentive Plan and the Company's 2015 Stock Option and Incentive Plan. The unrecognized compensation cost is expected to be recognized over a remaining weighted average period of 1.39 years.

(17) Income Taxes

The income before income tax expense shown below is based on the geographic location to which such income is attributed for each of the fiscal years ended March 31, 2020, 2019 and 2018:

	Year Ended March 31,		
	2020	2019	2018
United States	$ 25,528	$ 9,454	$ (31,526)
Foreign	23,133	28,710	73,362
Total	$ 48,661	$ 38,164	$ 41,836

The provision for income taxes for each of the fiscal years ended March 31, 2020, 2019 and 2018 consisted of the following:

	March 31,		
	2020	2019	2018
Current provision:			
Federal	$ (736)	$ 672	$ 18,747
State	995	447	(108)
Foreign	(2,133)	21,124	24,195
Total current provision	$ (1,874)	$ 22,243	$ 42,834
Deferred (benefit) provision:			
Federal	$ (3,135)	$ (315)	$ (1,289)
State	1,692	1,105	(2,726)
Foreign	3,626	(2,560)	(5,931)
Total deferred (benefit) provision	$ 2,183	$ (1,770)	$ (9,946)
Total provision for income taxes	$ 309	$ 20,473	$ 32,888

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

The items which gave rise to differences between the income taxes in the statements of income and the income taxes computed at the U.S. statutory rate 21.0%, 21.0% and 30.7% for the year ended March 31, 2020, 2019 and 2018 respectively are summarized as follows:

	Year Ended March 31,		
	2020	2019	2018
Tax on income before income tax expense at U.S. statutory rate	$ 10,124	$ 8,014	$ 12,865
U.S. state and local taxes (benefit), net of U.S. federal income tax effects	2,478	1,459	(2,800)
Benefit from foreign subsidiaries' tax holidays	(126)	(5,778)	(7,727)
Foreign rate difference	7,668	11,795	(2,215)
Tax rate change	(1,917)	431	9,915
Nondeductible business costs	539	1,032	2,721
Repatriated foreign earnings	—	—	—
Deemed repatriated foreign earnings	—	(1,628)	17,834
GILTI and BEAT tax	3,367	3,763	—
Excess stock-based compensation benefits	(1,024)	(3,388)	(1,674)
Nondeductible interest	—	6,213	6,500
Other adjustments	4,118	(1,157)	(342)
Tax credit carry forwards	(15,565)	548	(1,360)
Income Tax Refundable	(16,940)	—	—
Valuation Allowance	7,587	(831)	(829)
Income tax expense	$ 309	$ 20,473	$ 32,888

Deferred tax assets (liabilities) at March 31, 2020 and 2019 were as follows:

	Year Ended March 31,	
	2020	2019
Deferred revenue	$ 1,458	$ 898
Bad debt reserve	525	662
Tax credit carry forwards	15,401	591
Accrued expenses and reserves	23,116	14,087
Operating lease liabilities	20,428	—
Share-based compensation expense	1,929	4,911
Unrealized losses	4,630	583
Intangible assets	—	3,324
Net operating loss	8,637	14,777
Total gross deferred tax assets	$ 76,124	$ 39,833
Valuation allowance	(9,644)	(2,492)
Total deferred tax assets	$ 66,480	$ 37,341
Depreciable assets	(6,497)	(7,351)
Intangible assets	(13,236)	—
Operating lease right-of-use assets	(18,829)	—
Acquisition and other liabilities	(2,961)	(8,890)
Goodwill	(10,799)	(8,154)
Total deferred tax liabilities	$ (52,322)	$ (24,395)
Net deferred tax assets/(liabilities)	$ 14,158	$ 12,946

The ultimate realization of deferred tax assets is dependent upon management's assessment of the Company's ability to generate sufficient taxable income to realize the deferred tax assets during the periods in which the temporary

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

differences become deductible. Management considers the historical level of taxable income, projections for future taxable income, and tax planning strategies in making this assessment. The Company has deferred tax assets in the United States, the United Kingdom and India, that are subject to realizability constraints for which a partial valuation allowance recoded. The Company assessed the available positive and negative evidence to estimate if sufficient future taxable income will be generated to realize the existing deferred tax assets. The Company recorded an increase to the valuation allowance totaling $7,152 during the fiscal year ended March 31, 2020 related to provisions of foreign tax credits and net operating losses in the United Kingdom and capital losses in India, for which realization does not meet more likely than not requirements.

The Company has determined for all other deferred assets that it is more likely than not that the results of future operations will generate sufficient taxable income to realize the deferred tax assets. We continue to monitor all positive and negative evidence related to this asset. Net losses in the United Kingdom have decreased during the fiscal year ended March 31, 2020 compared with the fiscal year ended March 31, 2019. A valuation allowance is required if, based on available evidence, it is more likely than not that all or some portion of the asset will not be realized due to the inability of the Company to generate sufficient taxable income in a specific jurisdiction. The Company has $28,218 and $673 of net deferred tax assets in the United States and the United Kingdom, respectively, at March 31, 2020. The Company has recorded a valuation allowance against certain NOLs in the United Kingdom as management has concluded it is more likely than not these will not be able to be utilized due to separate return limitations.

At March 31, 2020, the Company has $15,401 of US foreign tax credits which begin to expire in March 2024 and for which a partial valuation allowance has been recorded. The Company also has $4,246 of net operating losses, as of March 31, 2020, which begin to expire in the next five years and $4,391 of capital loss carryover which begins to expire in 2026. The Company has determined that it is more likely than not that the results of future operations will generate sufficient taxable income to realize $14,393 of these deferred tax assets for which a valuation allowance is not provided.

During the fiscal year ended March 31, 2020, the Company recorded $3,778 of net income tax benefit directly in other comprehensive income (loss) related to the unrealized gain (loss) on available-for-sale debt securities, the unrealized gain/loss on effective cash flow hedges and the foreign currency loss on certain long-term intercompany balances. During the fiscal year ended March 31, 2020, the Company recognized $1,024 of net income tax benefit related to a windfall in the tax benefits of share-based compensation which was recorded as an income tax benefit in the consolidated statement of income (loss) pursuant to ASU 2016-09.

During the fiscal year ended March 31, 2020, the Company merged Polaris Consulting and Software Limited (“Polaris”) with into Virtusa Consulting Services Private Limited (“Virtusa India”). The merger of Polaris into Virtusa India is considered an entity liquidation for US income tax purposes. The earnings of this entity will be subject to US taxation as well as local taxation with a corresponding foreign tax credit or deduction, at the election of the Company. The election resulted in a deferred tax charge of $2,879 during fiscal year ended March 31, 2020. The election also makes available to the Company the benefits of future foreign tax credits. The Company’s income tax provision for the fiscal year ended March 31, 2020 includes the expected impact of GILTI and executive compensation limitations of the Tax Cuts and Jobs Act (the “Tax Act”) impacting the operating results for the Company’s fiscal year ended March 31, 2020. The Company’s aggregate income tax rate in foreign jurisdictions is comparable to its income tax rate in the United States, as a result of the Tax Act, other than in Singapore and Sri Lanka in which the Company has tax holiday benefits and eligible tax exemptions respectively.

The Company’s effective tax rate for the fiscal year ended March 31, 2020 was significantly impacted by the merger of Polaris India into Virtusa India. The merger makes available to the Company tax deductions for interest on debt used to purchase the group as well as amortization of intangible assets. Under local Indian law, the merger was retroactive to April 1, 2018 resulting in amended tax return filing in India for the year ended March 31, 2019. The Company recorded an income tax benefit of $11,377 reflecting an expected refund of previously paid tax. The Company also recorded certain foreign tax credits totaling $14,324, which are expected to be available to reduce future federal income tax.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

During the fiscal year ended March 31, 2019, the Company elected to treat several foreign entities as disregarded entities. The earnings of these subsidiaries will be subject to US taxation as well as local taxation with a corresponding foreign tax credit or deduction, at the election of the Company. The GILTI provisions and executive compensation limitations enacted in the Tax Act, enacted on December 22, 2017 by the U.S. government continue to impact the results. The Company's reported effective tax rate is also impacted by jurisdictional mix of profits and losses in which the Company operates, foreign statutory tax rates in effect, unusual or infrequent discrete items requiring a provision and certain exemptions or tax holidays applicable to the Company.

The Coronavirus Aid, Relief, and Economic Security (CARES) Act provided for NOLs arising in tax years beginning after December 31, 2017, and before January 1, 2021, may be carried back to each of the five tax years preceding the tax year of such loss. Net operating losses have an unlimited carry forward period, although there are annual limitations on their use suspended for certain years as result of CARES Act. The Company intends to file an immediate carry back claim in the United States. The income tax expense for the fiscal year ended March 31, 2020 included the impact of the carryback claim for $1,524 benefit, net of valuation allowance.

At March 31, 2020, the remaining deemed repatriation balance is $13,461, of which $1,282 is included in income tax payable and $12,179 is included in long-term liabilities in the consolidated balance sheet. The Company has elected to pay the deemed repatriation tax on unremitted earnings in eight installments through the fiscal year 2025. In July 2019, the Company paid approximately $1,137 representing the second yearly installment out of the eight yearly installments.

The U.S. Tax Act subjects a U.S. shareholder to GILTI earned by certain foreign subsidiaries. The FASB Staff Q&A, Topic 740, No. 5, Accounting for Global Intangible Low-Taxed Income, states that an entity can make an accounting policy election to either recognize deferred taxes for temporary basis differences expected to reverse as GILTI in future years or provide for the tax expense related to GILTI in the year the tax is incurred. The Company has elected to provide for GILTI in the year incurred. The Company's results for the fiscal year ended March 31, 2020 and 2019 include the expected impact of GILTI.

The Company's Indian subsidiaries operate several development centers in areas designated as a special economic zone, or SEZ, under the SEZ Act of 2005. In particular, the Company was approved as an SEZ Co-developer and has built a campus on a 6.3 acre parcel of land in Hyderabad, India that has been designated as an SEZ. As an SEZ Co-developer, the Company is entitled to certain tax benefits for any consecutive period of 10 years during the 15-year period starting in fiscal year 2008. The Company has elected to claim SEZ co-developer income tax benefits starting in the fiscal year ended March 31, 2013. Beginning April 1, 2019, the Company adopted the new tax ordinance of the income tax act of 1961 requiring the surrender of unexpired tax holidays. The Company had units at various stages of tax holiday benefit with many nearing expiration.

On September 20, 2019, the Indian government issued Ordinance 2019 making certain amendments in the Income-tax Act 1961, which substantially reduces tax rates. The effective rate of tax on India-based companies was reduced from 34.9% to 25.17%, effective for fiscal years beginning April 1, 2019. The Company adopted the new ordinance for the fiscal year beginning April 1, 2019. The new rates require the surrendering of any tax holidays and other attributes of which the Company historically was taking advantage of and favorably impacting our tax rate.

In addition, the Company's Sri Lankan subsidiary, Virtusa (Private) Limited, is operating under a 12-year income tax holiday arrangement that expired on March 31, 2019 and required Virtusa (Private) Limited to retain certain job creation and investment criteria through the expiration of the holiday period. During the fiscal year ended March 31, 2020, the Company believes it had fulfilled its hiring and investment commitments and is eligible for tax holiday through March 2019. Beginning April 1, 2019, the Company is taking advantage of certain exemptions offered to IT service providers. The India and Sri Lanka income tax holidays reduced the overall tax provision and increased both net income and diluted earnings per share in the fiscal years ended March 31, 2020, 2019 and 2018 by $126, $5,778 and $7,727, respectively, and by $0.00, $0.19 and $0.26, respectively.

The Company has been under income tax examination in India, the U.K., Singapore and the United States. The Indian taxing authorities issued an assessment order with respect to their examination of the various tax returns for the fiscal years ended March 31, 2006 to March 31, 2017 of the Company's Indian subsidiary, Virtusa (India) Private Ltd, and Polaris Consulting & Services Limited (Polaris India) now merged with and into Virtusa Consulting Services Private Limited (collectively referred to as "Virtusa India"). At issue were several matters, the most significant of which was the redetermination of the arm's-length profit which should be recorded by Virtusa India on the intercompany transactions with its affiliates. These matters are currently at different level of appeals beginning with the fiscal year ended March 31, 2006. In the United Kingdom, the Company is currently under examination for transfer pricing and research benefits for the years ended March 31, 2014 to March 31, 2018. In Singapore, the Inland Revenue Authority is confirming the appropriateness of the Company's deductions for the year ended March 31, 2017. In the United States, the Internal Revenue Service has concluded an examination of fiscal years ended March 31, 2015 and March 31, 2017. During the fiscal year ended March 31, 2020, the Company settled with the Internal Revenue Service employment tax matters for several years. The impact of these settlements with the Internal Revenue Service was not material to the consolidated statements of income and consolidated statements of cash flows.

Undistributed Earnings of Foreign Subsidiaries

A substantial amount of the Company's income before provision for income tax is from operations earned in its Indian and Sri Lankan subsidiaries and is subject to tax holiday. The Company intends to use accumulated and future earnings of foreign subsidiaries to expand operations outside the United States and, accordingly, undistributed income is considered indefinitely reinvested. The Company does not provide for U.S. income taxes on foreign currency translation or applicable withholding tax until a distribution is declared. At March 31, 2020, the Company had approximately $194,789 of cash, cash equivalents, short-term and long-term investments that would otherwise be available for potential distribution, if not indefinitely reinvested. If required, such cash and investments could be repatriated to the United States. Due to the various methods by which such earnings could be repatriated in the future, the amount of taxes attributable to the undistributed earnings is not practicably determinable.

Each fiscal year, unrecognized tax benefits may be adjusted upon the closing of the statute of limitations for income tax returns filed in various jurisdictions. The total amount of unrecognized tax benefits that would reduce income tax expense and the effective income tax rate, if recognized, is $6,627, $6,744 and $7,544 as of March 31, 2020, 2019 and 2018, respectively. Although it would be difficult to anticipate the final outcome on timing of resolution of any particular uncertain tax position, the Company anticipates that $10 of unrecognized tax benefits will reverse during the twelve- month period ending March 31, 2021 due to settlement or expiration of statute of limitations on open tax years. All of these benefits are expected to have an impact on the effective tax rate as they are realized.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

The following summarizes the activity related to the gross unrecognized tax benefits:

	March 31, 2020	2019	2018
Balance at beginning of the fiscal year	$ 6,744	$ 7,544	$ 7,612
Foreign currency translation related to prior year tax positions	(467)	(472)	105
Decreases related to prior year tax positions	—	(770)	(332)
Decreases related to prior year tax positions due to settlements or lapse in applicable statute of limitations	(324)	(206)	(335)
Increases related to prior year tax positions	674	648	494
Balance at end of the fiscal year	$ 6,627	$ 6,744	$ 7,544

The Company continues to classify accrued interest and penalties related to unrecognized tax benefits in income tax expense. During the fiscal years ended March 31, 2020 and 2019, the Company expensed accrued interest and penalties of $194 and $311, respectively, through income tax expense consistent with its prior positions, to reflect interest and penalties on certain unrecognized tax benefits as part of income tax. The total accrued interest and penalties, including foreign currency translation relating to certain foreign and domestic tax matters at March 31, 2020 and 2019, were $1,586 and $1,572, respectively. During the fiscal year ended March 31, 2020, the Company's unrecognized tax benefits decreased by $117. The decrease in the unrecognized tax benefits during the fiscal year ended March 31, 2020 was predominantly due to foreign currency movements and the settlement of a prior period position offset by increases for United Kingdom audit matters and incremental interest accrued on existing uncertain tax positions. The net movement in unrecognized tax benefits for the fiscal year ended March 31, 2020 was as follows: $599 expense recorded to income tax expense, $249 for cash settlements and $467 to other comprehensive income (loss) for foreign currency impact. The Company has recorded unrecognized tax benefits in long-term liabilities if settlement is not expected in the next year.

(18) Post-retirement Benefits

The Company has noncontributory defined benefit plans (the "Benefit Plans") covering its employees in India and Sri Lanka as mandated by the Indian and Sri Lankan governments. Benefits are based on the employee's years of service and compensation at the time of termination. The Company uses March 31 as the measurement date for its plans.

Cost of pension plans

	Year Ended March 31, 2020	2019	2018
Components of net periodic pension expense			
Expected return on plan assets	$ (876)	$ (807)	$ (692)
Service costs for benefits earned	2,750	1,914	1,464
Interest cost on projected benefit obligation	985	741	660
Amortization of prior service cost	26	44	9
Recognized net actuarial loss	276	146	138
Net periodic pension expense	$ 3,161	$ 2,038	$ 1,579

In accordance with the recently adopted FASB ASU 2017-07, Compensation—Retirement Benefits (Topic 715), "Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost, the Company presented the service cost component in costs of revenue and selling, general and administrative expenses. The other components of net periodic pension cost are presented within other (income) expense in the Consolidated Statements of

(thousands, except share and per share amounts)

Income (Loss). The adoption of this guidance did not have a material impact on the consolidated financial statements, therefore, the Company did not retrospectively change the presentation of the financial statements.

Actuarial assumptions

	March 31, 2020	March 31, 2019	March 31, 2018
Discount rate	6.60 % - 9.25 %	7.10 % - 11.16 %	7.30 % - 10.34 %
Compensation increases (annual)	6.50 % - 7.00 %	5.00 % - 8.00 %	5.00 % - 8.00 %
Expected return on assets	7.00 % - 8.44 %	7.00 % - 11.87 %	7.50 % - 12.20 %

The discount rate is based upon high quality fixed income investments in India and Sri Lanka. The discount rates at March 31, 2020 were used to measure the year-end benefit obligations and the pension cost for the subsequent year.

To determine the expected long-term rate of return on pension plan assets, the Company considers the current and expected asset allocations, as well as historical and expected returns on various categories of plan assets. The Company amortizes unrecognized actuarial gains or losses over a period no longer than the average future service of employees.

The Company's benefit obligations are described in the following tables. Accumulated and projected benefit obligations ("ABO" and "PBO", respectively) represent the obligations of a pension plan for past service as of the measurement date. ABO is the present value of benefits earned to date with benefits computed based on current compensation levels. PBO is ABO increased to reflect expected future compensation.

Accumulated benefit obligation and projected benefit obligation

	March 31, 2020	March 31, 2019
Accumulated benefit obligation	$ 9,867	$ 8,208
Projected benefit obligation:		
Beginning balance	$ 11,928	$ 10,524
Service cost	2,750	1,914
Interest cost	985	741
Actuarial (gain) loss	586	698
Benefits paid	(1,514)	(1,398)
Plan combination	97	259
Exchange rate adjustments	(1,003)	(810)
Ending balance	$ 13,829	$ 11,928

Fair value of plan assets

	March 31, 2020	March 31, 2019
Beginning balance	$ 10,055	$ 9,885
Employer contributions	2,505	1,794
Actual return on plan assets	997	518
Actuarial loss	—	(3)
Benefits paid	(1,495)	(1,398)
Exchange rate adjustments	(705)	(741)
Ending balance	$ 11,357	$ 10,055

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

At March 31, 2020 and 2019 India and Sri Lanka together had $2,472 and $1,873, respectively, net projected benefit obligation recorded in the consolidated balance sheets as "accrued employee compensation and benefits".

Plan asset allocation

	March 31, 2020		
	Target Allocation		Actual Allocation
Government securities	40 %	50 %	52 %
Corporate debt	30 %	40 %	37 %
Other	1 %	10 %	11 %

The Company's plan assets are being managed by insurance companies in India and Sri Lanka.

Plan Assets

The following table presents the fair values of the Company's pension plan assets.

	Fair Value Measurements		
Asset Category	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)
At March 31, 2020			
Government Bonds(1)	$ 5,896	$ —	$ 5,896
Corporate Bonds(2)	4,247	—	4,247
Equity Shares and Others(3)	1,214	427	787
	$ 11,357	$ 427	$ 10,930
At March 31, 2019			
Government Bonds(1)	$ 4,975	$ —	$ 4,975
Corporate Bonds(2)	4,097	—	4,097
Equity Shares and Others(3)	983	346	637
	$ 10,055	$ 346	$ 9,709

(1) This category comprises government fixed income investments with investments in India and Sri Lanka.

(2) This category represents investment in bonds and debentures from diverse industries.

(3) This category represents equity shares, money market investments and other investments.

The fair values of the government bonds are measured based on market quotes. Corporate bonds and other bonds are valued based on market quotes as of the balance sheet date. Equity share funds are valued at their market prices as of the balance sheet date. Money market funds are valued at their market price.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

Pension liability

	March 31,			
	2020		2019	
PBO	$	13,829	$	11,928
Fair value of plan assets		11,357		10,055
Funded status recognized	$	2,472	$	1,873
Amount recorded in accumulated other comprehensive income	$	2,298	$	2,402

The amount in accumulated other comprehensive income (loss) that is expected to be recognized as a component of net periodic benefit cost over the fiscal year ended March 31, 2021 is $418. The Company expects to contribute $5,335 to its gratuity plans during the fiscal year ending March 31, 2021.

The pretax amounts of prior service cost and actuarial gain (loss) recognized from accumulated other comprehensive income consists of:

	Year Ended March 31,					
	2020		2019		2018	
Prior service cost	$	(26)	$	(44)	$	(9)
Net amortization gain (loss)		(276)		(146)		(138)
Total	$	(302)	$	(190)	$	(147)

Estimated future benefits payments

Fiscal year ending March 31 :		
2021	$	2,047
2022		1,768
2023		1,939
2024		2,406
2025		2,913
2026 - 2028	$	15,399

(19) 401(k) Plan

The Company sponsors a defined contribution retirement savings plan, qualified under Section 401(k) of the Internal Revenue Code (the "401(k) Plan"). Eligible employees may defer a portion of their compensation into the Company's 401(k) Plan on a pre-tax and/or Roth basis. The Company's 401(k) Plan currently offers a safe harbor match feature that provides Company matching contributions for certain employee contributions. For the fiscal periods ended March 31, 2020, 2019 and 2018, the Company recorded $2,761, $2,091 and $1,407 for the employer match, respectively. The Company's 401(k) Plan may be amended at the discretion of the Company's board of directors to discontinue the safe harbor match program at any time.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

(20) Noncontrolling interest

On March 3, 2016, the Company's Indian subsidiary, Virtusa Consulting Services Private Limited ("Virtusa India"), acquired approximately 51.7% of the fully diluted shares of Polaris Consulting & Services Limited ("Polaris") for approximately $168,257 in cash (the "Polaris Transaction") pursuant to a share purchase agreement dated as of November 5, 2015, by and among Virtusa India, Polaris and the promoter sellers named therein. Through a series of transactions and in compliance with the applicable Indian rules on takeovers and SEBI Delisting Regulations, Virtusa increased its ownership interest in Polaris from 51.7% to 93.0% by February 12, 2018, when Virtusa consummated its Polaris delisting offer with respect to the public shareholders of Polaris. The delisting offer resulted in an accepted exit price of INR 480 per share ("Exit Price"), for an aggregate consideration of approximately $145,000, exclusive of transaction and closing costs. On July 11, 2018, the stock exchanges on which Polaris common shares are listed notified Polaris that trading in equity shares of Polaris would be discontinued and delisted effective on August 1, 2018. For a period of one year following the date of delisting, Virtusa India has, in compliance with SEBI Delisting Regulations, permitted the public shareholders of Polaris to tender their shares for sale to Virtusa India at the Exit Price.

In connection with the Polaris delisting offer, during the six months ended September 30, 2019, Virtusa India purchased 1,263,117 shares, or approximately 1.2% of Polaris common stock from shareholders for an aggregate purchase price of approximately $8,675. As of September 30, 2019, the number of shares of Polaris common stock held by noncontrolling interest shareholders was 2,009,365 or approximately 1.95% of Polaris' basic shares of common stock outstanding.

Further to the Polaris delisting, in order to acquire the remaining noncontrolling interest, the Company filed an application for approval and authorization to purchase the remaining outstanding Polaris shares held by the Polaris shareholders ("the Polaris Repurchase") as well as final approval of the merger of Polaris with and into Virtusa India ("Merger"). On December 9, 2019, the Company received a Common Order ("Court Order") to move forward with the Polaris Repurchase and certain conditional approvals for the Merger.

In connection with the Polaris Repurchase under the Court Order, on December 20, 2019, upon the Company filing the required documents, all the outstanding equity shares of Polaris held by public shareholders were deemed cancelled, but converted to the right to receive payment for these shares from the Company. Within 30 days from December 20, 2019, the Company is required to pay consideration of INR 480 per share for each cancelled share held by these former Polaris shareholders.

At December 20, 2019, the total amount payable by the Company to the remaining Polaris public shareholders was $13,564. As of March 31, 2020, the Company paid the total amount of liability to the remaining Polaris public shareholders.

In connection with the Merger, the conditional approvals required were approved by the respective authorities on January 2, 2020 and the Merger is effective, with an effective date as of April 1, 2018.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

(21) Accumulated Other Comprehensive Loss

	Year Ended March 31,		
	2020	2019	2018
Investment securities			
Beginning balance	$ 12	$ 69	$ 57
Other comprehensive income (loss) (OCI) before reclassifications, net of tax of $0, $58, $108	(2)	(219)	175
Reclassifications from OCI to other income, net of tax of $0, $20, $(246)	2	150	(190)
Less: Noncontrolling interests, net of tax of $0, $7, $15	—	12	27
Comprehensive income (loss) on investment securities, net of tax of $0, $85, $(123)	—	(57)	12
Closing balance	$ 12	$ 12	$ 69
Currency translation adjustments			
Beginning balance	$ (57,354)	$ (41,207)	$ (50,415)
OCI before reclassifications	(13,464)	(17,305)	8,262
Less: Noncontrolling interests	(389)	1,158	946
Comprehensive income (loss) on currency translation adjustments	(13,853)	(16,147)	9,208
Closing balance	$ (71,207)	$ (57,354)	$ (41,207)
Cash flow hedges			
Beginning balance	$ 39	$ 1,881	$ 11,789
OCI before reclassifications net of tax of $(3,050), $(1,966), $1,265	(8,616)	(4,104)	2,428
Reclassifications from OCI to			
—Revenue, net of tax of $4, $738 and $(3,036)	14	1,375	(5,651)
—Costs of revenue, net of tax of $(653), $392, $(1,543)	(2,291)	1,089	(4,855)
—Selling, general and administrative expenses, net of tax of $(265), $175, $(852)	(943)	488	(2,748)
—Interest expenses, net of tax of $(8), $(251), $(64)	(21)	(714)	(160)
Less: Noncontrolling interests, net of tax of $0, $13, $571	—	24	1,078
Comprehensive income (loss) on cash flow hedges, net of tax of $(3,972), $(899), $(3,659)	(11,857)	(1,842)	(9,908)
Closing balance	$ (11,818)	$ 39	$ 1,881
Benefit plans			
Beginning balance	$ (2,084)	$ (1,424)	$ (1,180)
OCI before reclassifications net of tax of $232, $40, $(198)	(633)	(1,024)	(364)
Reclassifications from OCI for prior service credit (cost) to:			
—Costs of revenue, net of tax of $0, $0, $34	—	—	62
—Selling, general and administrative expenses, net of tax of $0, $0, $15	—	—	27
Other income (expense), net of tax of $2, $13, $0	24	137	—
Reclassifications from net actuarial gain (loss) amortization to:			
—Costs of revenue, net of tax of $0, $0, $3	—	—	5
—Selling, general and administrative expenses, net of tax of $0 for all periods	—	—	1
Other income (expense), net of tax of $0, $3, $0	279	41	—
Other adjustments, net of tax of $0, $(17), 0	182	159	20
(Less): Noncontrolling interests, net of tax $0, $9, $2	(10)	27	5
Comprehensive income (loss) on benefit plans, net of tax of $234, $48, $(144)	(158)	(660)	(244)
Closing balance	(2,242)	$ (2,084)	$ (1,424)
Accumulated other comprehensive loss	$ (85,255)	$ (59,387)	$ (40,681)

(22) Treasury Stock

On August 5, 2019, the Company's board of directors authorized a share repurchase program of up to $30,000 of the Company's common stock over 12 months from the approval date, subject to certain price and other trading restrictions as established by the Company. During the fiscal year ended March 31, 2020, the Company repurchased 505,565 shares of the Company’s common stock at a weighted average price of $36.93 per share for an aggregate purchase price of $18,680. As of March 31, 2020, the share repurchase program has been suspended due to the COVID-19 pandemic.

(23) Commitments, Contingencies and Guarantees.

The Company indemnifies its officers and directors for certain events or occurrences under its charter or by-laws and under indemnification agreements while the officer or director is, or was, serving at its request in a defined capacity. The term of the indemnification period is with respect to the period that such person was an officer or director of the Company. The maximum potential amount of future payments the Company could be required to make under these indemnification obligations is unlimited. The costs incurred to defend lawsuits or settle claims related to these indemnification obligations have not been material. As a result, the Company believes that its estimated exposure on these obligations is minimal. Accordingly, the Company had no liabilities recorded for these obligations as of March 31, 2020.

The Company is insured against any actual or alleged act, error, omission, neglect, misstatement or misleading statement or breach of duty by any current or former officer, director or employee while rendering information technology services. The Company believes that its financial exposure from such actual or alleged actions, should they arise, is minimal and no liability was recorded at March 31, 2020.

From time to time the Company is involved in legal proceedings, claims and litigation related to employee claims, contractual disputes and taxes in the ordinary course of business. The Company accrues a liability when a loss is considered probable and the amount can be reasonably estimated. When a material loss contingency is reasonably possible but not probable, the Company does not record a liability, but instead discloses the nature and the amount of the claim, and an estimate of the loss or range of loss, if such an estimate can be made. Legal fees are expensed as incurred. Although the Company cannot predict the outcome of such matters, the Company has no reason to believe the disposition of any current matter, other than the specific matters described below, could reasonably be expected to have a material adverse impact on the Company’s balance sheets, income of operations and cash flows or the ability to carry on any of its business activities. This assessment is based on our current understanding of relevant facts and circumstances. As such, our view of these matters is subject to inherent uncertainties and may change in the future.

One of the Company’s larger clients made a demand for damages related to a project in which the Company was performing services. The client alleges breaches of certain representations and warranties regarding the Company’s performance and is seeking indemnification for damages from those alleged breaches. No litigation has been filed. The Company believes that it has defenses against the claims described in the demand, and intends to zealously defend against those claims. However, the Company cannot provide any assurance that the Company will prevail in the dispute or even partially prevail. Further, if the Company is unsuccessful in any settlement discussions, the Company also cannot provide any assurance that the client will not use set off rights in the contract, even if the Company disputes the claims or amount of damages alleged. In the event the Company does not fully prevail in this dispute, the Company may have to pay damages in amounts for which it may not have reserved or which may or may not be covered by the Company’s insurance policies; further, even if the damages are covered, depending on the outcome, the Company’s insurance may not cover or be adequate to pay the entire claim. In addition, the Company cannot guarantee that the Company will not lose future business with such client as a result of such dispute.

On February 28, 2019, the Supreme Court of India issued a ruling interpreting certain statutory defined contribution obligations of employees and employers, which altered historical understandings of such obligations, extending them to cover additional portions of employee income. As a result, contributions by our employees and the Company will increase in future periods. There is uncertainty as to whether the Indian government will apply the Supreme Court's ruling on a retroactive basis and if so, how this liability should be calculated as it is impacted by multiple variables, including the period of assessment, the application with respect to certain current and former employees and whether interest and penalties may be assessed. As such, the ultimate amount of our obligation is difficult to quantify. If the Indian government were to apply the Supreme Court ruling retroactively, without assessing interest and penalties, the impact would be a charge of approximately $7,500 to the Company's income from operations and cash flows.

(24) Derivative Financial Instruments

The Company evaluates its foreign exchange policy on an ongoing basis to assess its ability to address foreign exchange exposures on its consolidated balance sheets, statements of income and consolidated statement of cash flows from all foreign currencies, including most significantly the U.K. pound sterling, Indian rupee and Sri Lankan rupee. The Company enters into hedging programs with highly rated financial institutions in accordance with its foreign exchange policy (as approved by the Company's audit committee and board of directors) which permits hedging of material, known foreign currency exposures. There is no margin required, no cash collateral posted or received by us related to our foreign exchange forward contracts. Currently, the Company maintains four hedging programs, each with varying contract types, duration and purposes. The Company's "Cash Flow Program" is designed to mitigate the impact of volatility in the U.S. dollar and U.K. Pound Sterling equivalents of the Company's Indian rupee denominated expenses over a rolling 18-month period. The Cash Flow Program transactions currently meet the criteria for hedge accounting as cash flow hedges. The Company's "Economic Hedge Program" involves the purchase of derivative instruments with maturities of up to 92 days, and is designed to mitigate the impact of foreign exchange on U.K. pound sterling, the euro, the Canadian dollar and the Australian dollar denominated revenue and costs with respect to the quarter for which such instruments are purchased. The Economic Hedge Program does not meet the criteria for hedge accounting and all gains and losses are recognized in consolidated statement of income under the same line item as the underlying exposure being hedged.

The Company is exposed to credit losses in the event of non-performance by the counterparties on its financial instruments. All counterparties currently have investment grade credit ratings. The Company anticipates that these counterparties will be able to fully satisfy their obligations under the contracts. The Company has derivative contracts with four counterparties as of March 31, 2020.

The Company's agreements with its counterparties contain provisions pursuant to which the Company could be declared in default of its derivative obligations. As of March 31, 2020, the Company had not posted any collateral related to these agreements. If the Company had breached any of these provisions as of March 31, 2020, it could have been required to settle its obligations under these agreements at amounts which approximate the March 31, 2020 fair values reflected in the table below. During the fiscal year ended March 31, 2020, the Company was not in default of any of its derivative obligations.

Changes in fair value of the designated cash flow hedges for our Cash Flow Program are recorded as a component of accumulated other comprehensive income (loss) ("AOCI"), net of tax until the forecasted hedged transactions occur and are then recognized in the consolidated statements of income in the same line item as the item being hedged. The Company evaluates hedge effectiveness at the time a contract is entered into, as well as on an ongoing basis. If and when hedge relationships are discontinued, and should the forecasted transaction be deemed probable of not occurring by the end of the originally specified period or within an additional two-month period of time thereafter, any related derivative amounts recorded in equity are reclassified to earnings in other income (expense). There were no amounts reclassified to earnings as a result of hedge ineffectiveness for the fiscal year ended March 31, 2020 and 2019.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

Changes in the fair value of the hedges for the Economic Hedge Program, if any, are recognized in the same line item as the underlying exposure being hedged and the ineffective portion of cash flow hedges, if any, is recognized as other income (expense). The Company values its derivatives based on market observable inputs including both forward and spot prices for currencies. Any significant change in the forward or spot prices for hedged currencies would have a significant impact on the value of the Company's derivatives.

The U.S. dollar notional value of all outstanding foreign currency derivative contracts was $128,728 and $118,557 at March 31, 2020 and 2019, respectively. Unrealized net losses related to these contracts which are expected to be reclassified from accumulated other comprehensive income (loss) ("AOCI") to earnings during the next 12 months are $3,586 at March 31, 2020. At March 31, 2020, the maximum outstanding term of any derivative instrument was 15 months.

The Company also uses interest rate swaps to mitigate the Company's interest rate risk on the Company's variable rate debt. The Company's objective is to limit the variability of cash flows associated with changes in LIBOR interest rate payments due on the Credit Agreement (See Note 14 to the consolidated financial statements), by using pay-fixed, receive-variable interest rate swaps to offset the future variable rate interest payments. The Company will recognize these transactions in accordance with ASC 815 "Derivatives and Hedging," and have designated the swaps as cash flow hedges.

The Company purchased interest rate swaps in July 2016 with an effective date of July 2017 and in November 2018. The July 2016 interest rate swaps are at a blended weighted average of 1.025% and the Company will receive 1-month LIBOR on the same notional amounts. The November 2018 interest rate swaps were entered into to mitigate the interest rate risk associated with the Credit Agreement executed in February 2018 and subsequent additional borrowings. The November 2018 interest rate swaps are at a fixed rate of 2.85% and are designed to maintain a 50% coverage of our LIBOR debt, therefore the notional amount changes over the life of the swap to retain the 50% coverage target. At March 31, 2020, the total notional amounts of the interest rate swaps were $177,300 with remaining maturity of approximately 3 years. The unrealized loss in associated with the swap agreements was $11,128 and $2,284 at March 31, 2020 and March 31, 2019, respectively, which represents the estimated amount that the Company would pay to the counterparties in the event of an early termination.

The following tables set forth the fair value of derivative instruments included in the consolidated balance sheets at March 31, 2020 and 2019:

Derivatives designated as hedging instruments

	March 31, 2020	March 31, 2019
Foreign currency exchange contracts:		
Other current assets	$ 103	$ 3,264
Other long-term assets	$ 56	$ 147
Accrued expenses and other	$ 3,689	$ 318
Long-term liabilities	$ 364	$ 3

	March 31, 2020	March 31, 2019
Interest rate swap contracts:		
Other long-term assets	$ —	$ 1,349
Long-term liabilities	$ 11,128	$ 3,633

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

The following tables set forth the effect of the Company's foreign currency exchange and interest rate swap contracts on the consolidated financial statements of the Company for the fiscal years ended March 31, 2020 and 2019:

Derivatives Designated as Cash Flow Hedging Relationships	Amount of Gain or (Loss) Recognized in AOCI on Derivatives March 31, 2020	Amount of Gain or (Loss) Recognized in AOCI on Derivatives March 31, 2019
Foreign currency exchange contracts	$ (2,851)	$ (2,266)
Interest rate swaps	$ (8,814)	$ (3,804)

Location of Gain or (Loss) Reclassified from AOCI into Income (loss) (Effective Portion)	Amount of Gain or (Loss) Reclassified from AOCI into Income March 31, 2020	Amount of Gain or (Loss) Reclassified from AOCI into Income March 31, 2019
Revenue	$ (18)	$ (2,113)
Costs of revenue	$ 2,944	$ (1,481)
Operating expenses	$ 1,208	$ (663)
Interest Expenses	$ 29	$ 965

Derivatives not Designated as Hedging Instruments	Location of Gain Or (Loss) Recognized in Income (loss) on Derivatives	Amount of Gain or (Loss) Recognized in Income on Derivatives March 31, 2020	Amount of Gain or (Loss) Recognized in Income on Derivatives March 31, 2019
Foreign currency exchange contracts	Revenue	$ 706	$ 1,427
	Costs of revenue	$ (404)	$ (941)
	Selling, general and administrative expenses	$ (27)	$ (41)

(25) Business Segment Information

Accounting pronouncements establish standards for the manner in which public companies report information about operating segments in annual and interim financial statements. Operating segments are components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision-maker on deciding on how to allocate resources and in assessing performance. The Company's chief operating decision-maker is considered to be the Company's Chief Executive Officer. The Company's Chief Executive Officer reviews financial information presented on an entity level basis for purposes of making operating decisions and assessing financial performance. Therefore, the Company has determined that it operates in a single operating and reportable segment.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

Geographic information:

Total revenue is attributed to geographic areas based on location of the client. Geographic information is summarized as follows:

	Year Ended March 31, 2020	2019	2018
Customer revenue:			
United States of America	$ 912,063	$ 843,791	$ 628,147
United Kingdom	182,365	209,232	195,547
Rest of World	217,855	194,840	196,975
Consolidated revenue	$ 1,312,283	$ 1,247,863	$ 1,020,669

	March 31, 2020	March 31, 2019
Long-lived assets, net of accumulated depreciation and amortization:		
United States of America	$ 272,422	$ 216,279
India	238,367	251,722
Rest of World	17,857	23,847
Consolidated long-lived assets, net	$ 528,646	$ 491,848

(26) Quarterly Results of Operations (unaudited)

	Three Months Ended March 31, 2020	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018
Revenue	$ 329,651	$ 335,107	$ 328,501	$ 319,024	$ 327,631	$ 314,681	$ 305,520	$ 300,031
Costs of revenue	249,397	236,427	238,584	234,735	230,364	221,461	216,346	216,481
Gross profit	80,254	98,680	89,917	84,289	97,267	93,220	89,174	83,550
Operating expenses	63,115	68,270	70,682	70,861	74,227	73,935	75,155	69,626
Income from operations	17,139	30,410	19,235	13,428	23,040	19,285	14,019	13,924
Other income (expense)	(14,516)	(7,209)	(7,157)	(2,669)	(9,930)	3,912	(12,461)	(13,625)
Income before income tax expense (benefit)	2,623	23,201	12,078	10,759	13,110	23,197	1,558	299
Income tax expense (benefit)	(19,623)	10,363	4,830	4,739	4,611	10,400	(402)	5,864
Net income (loss)	22,246	12,838	7,248	6,020	8,499	12,797	1,960	(5,565)
Noncontrolling interest	—	118	146	186	138	221	455	731
Net income (loss) available to Virtusa stockholders	$ 22,246	$ 12,720	$ 7,102	$ 5,834	$ 8,361	$ 12,576	$ 1,505	$ (6,296)
Less: Series A Convertible Preferred Stock dividends and accretion	1,088	1,087	1,088	1,087	1,088	1,087	1,088	1,087
Net income (loss) available to Virtusa common stockholders	21,158	11,633	$ 6,014	$ 4,747	$ 7,273	11,489	$ 417	$ (7,383)
Basic earnings (loss) per share available to Virtusa common stockholders (1)	$ 0.71	$ 0.39	$ 0.20	$ 0.16	$ 0.24	$ 0.38	$ 0.01	$ (0.25)
Diluted earnings (loss) per share available to Virtusa common stockholders (1)	$ 0.66	$ 0.38	$ 0.20	$ 0.15	$ 0.24	$ 0.37	$ 0.01	$ (0.25)

(1) Earnings (loss) per share amounts for each quarter may not total to the yearly earnings (loss) per share due to the weighting of shares outstanding on a quarterly and year-to-date basis.

Virtusa Corporation and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(thousands, except share and per share amounts)

(27) Subsequent Event

On May 27, 2020, the Company entered into Amendment No. 3 to Amended and Restated Credit Agreement with JPMorgan Chase Bank, N.A. (the " Administrative Agent") and the lenders par ty thereto (the " Third Credit Agreement Amendment"), which amends the Company's Amended and Restated Credit Agreement, dated as of February 6, 2018, with such parties (as amended, "Credit Agreement") to, among other things, (i) provide for $62,492 in incremental 364-day delayed draw term loans (the "New Delayed Draw Term Loans"), which can be drawn down up to three times on or before September 27, 2020 and (ii) extend out the debt to EBITDA ratio covenant step down by two quarters such that the leverage covenant remains at 3.25:1.00 through December 31, 2020. The Administrative Agent increased the LIBOR floor to 1.00% from 0% as part of the Third Credit Agreement Amendment. The Company executed the Third Credit Agreement Amendment to provide additional liquidity in light of the COVID-19 pandemic which the Company could use to fund general working capital and refinance existing indebtedness under the credit facility. On May 27, 2020, the Company prepaid $55,000 on its existing revolving facility as a condition to closing the Third Credit Agreement Amendment. At May 27, 2020, the total amount outstanding under the credit facility was $444,969. The Third Credit Agreement Amendment contains customary terms for amendments of this type, such as representations, warranties and covenants, including pro forma compliance with the Credit Agreement debt to EBITDA covenant as a condition to borrowing. Interest under the New Delayed Draw Term Loans accrues at a rate per annum of LIBOR plus 3.50%. The New Delayed Draw Term Loans mature on May 26, 2021 and do not amortize.

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

None.

Item 9A. ***Controls and Procedures.***

(1) Evaluation of Disclosure Controls and Procedures

We have carried out an evaluation, under the supervision and the participation of our management of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Securities Exchange Act), as of March 31, 2020. Based upon that evaluation, our principal executive officer and principal financial officer concluded that, as of the end of that period, our disclosure controls and procedures are effective in providing reasonable assurance that (a) the information required to be disclosed by us in the reports that we file or submit under the Securities Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and (b) such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure. In designing and evaluating our disclosure controls and procedures, our management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and our management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

(2) Report of Management on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act as a process designed by, or under the supervision of, the issuers principal executive and principal financial officers or other persons performing similar functions and effected by the issuers board of directors, management and other personnel 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. Our internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the issuer;

- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that the receipts and expenditures of the issuers are being made only in accordance with authorizations of the management and directors of the issuer; and

- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the issuer’s assets that could have a material effect on the financial statements.

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

Our management assessed the effectiveness of our internal control over financial reporting as of March 31, 2020. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”) in Internal Control—Integrated Framework 2013.

Based on this assessment, our management has concluded that, as of March 31, 2020, our internal control over financial reporting was effective based on those criteria.

The effectiveness of our internal control over financial reporting as of March 31, 2020 has been audited by KPMG LLP, an independent registered public accounting firm, as stated in their report, which is included herein.

(3) Changes in Internal Controls over Financial Reporting

There were no changes in our internal control over financial reporting during the fourth quarter of fiscal 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. *Other Information.*

On May 27, 2020, the Board of Directors (the "Board") of Virtusa Corporation (the "Company") approved an amendment to the Company's amended and restated bylaws (the "By-laws Amendment"). The By-laws Amendment, which was adopted effective as of May 27, 2020, (1) designates the Court of Chancery of the State of Delaware as the exclusive jurisdiction for (i) any derivative action, (ii) any claim of breach of fiduciary duty, (iii) any claim against a current or former director, officer, employee or stockholder, and (iv) any action against the Company governed by the internal affairs doctrine, and (2) designates the United States District Court for the District of Massachusetts as the exclusive jurisdiction for any litigation arising under the Securities Act of 1933, as the Company's headquarters are located in Southborough, Massachusetts. The Board approved the By-laws Amendment in order to reduce any potential expenses that the Company may incur in connection with any of the specified types of actions or proceedings if the Company was required to defend any such potential actions or proceedings in multiple jurisdictions and in parallel proceedings in federal and state courts simultaneously.

On May 27, 2020, the Company entered into Amendment No. 3 to Amended and Restated Credit Agreement with JPMorgan Chase Bank, N.A. (the " Administrative Agent") and the lenders party thereto (the " Third Credit Agreement Amendment"), which amends the Company's Amended and Restated Credit Agreement, dated as of February 6, 2018, with such parties (as amended, "Credit Agreement") to, among other things, (i) provide for $62,492 in incremental 364-day delayed draw term loans (the "New Delayed Draw Term Loans"), which can be drawn down up to three times on or before September 27, 2020 and (ii) extend out the debt to EBITDA ratio covenant step down by two quarters such that the leverage covenant remains at 3.25:1.00 through December 31, 2020. The Administrative Agent increased the LIBOR floor to 1.00% from 0% as part of the Third Credit Agreement Amendment. The Company executed the Third Credit Agreement Amendment to provide additional liquidity in light of the COVID-19 pandemic which the Company could use to fund general working capital and refinance existing indebtedness under the credit facility. On May 27, 2020, the Company prepaid $55,000 on its existing revolving facility as a condition to closing the Third Credit Agreement Amendment. At May 27, 2020, the total amount outstanding under the credit facility was $444,969. The Third Credit Agreement Amendment contains customary terms for amendments of this type, such as representations, warranties and covenants, including pro forma compliance with the Credit Agreement debt to EBITDA covenant as a condition to borrowing. Interest under the New Delayed Draw Term Loans accrues at a rate per annum of LIBOR plus 3.50%. The New Delayed Draw Term Loans mature on May 26, 2021 and do not amortize.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance.***

The information required under this item is incorporated herein by reference to the Company's definitive proxy statement pursuant to Regulation 14A, which proxy statement is expected to be filed with the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended March 31, 2020.

Item 11. ***Executive Compensation.***

The information required under this item is incorporated herein by reference to the Company's definitive proxy statement pursuant to Regulation 14A, which proxy statement is expected to be filed with the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended March 31, 2020.

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

The information required under this item is incorporated herein by reference to the Company's definitive proxy statement pursuant to Regulation 14A, which proxy statement is expected to be filed with the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended March 31, 2020.

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

The information required under this item is incorporated herein by reference to the Company's definitive proxy statement pursuant to Regulation 14A, which proxy statement is expected to be filed with the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended March 31, 2020.

Item 14. ***Principal Accountant Fees and Services.***

The information required under this item is incorporated herein by reference to the Company's definitive proxy statement pursuant to Regulation 14A, which proxy statement is expected to be filed with the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended March 31, 2020.

PART IV

Item 15. ***Exhibits and Financial Statement Schedules.***

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

1. Financial Statements

The following consolidated financial statements are included in Item 8:

2. Financial Statement Schedules

The financial statement schedule entitled "Schedule II—Valuation and Qualifying Accounts" is filed as part of this Annual Report on Form 10-K under this Item 15.

All other schedules have been omitted since the required information is not present, or not present in amounts sufficient to require submission of the schedule, or because the information required is included in the Consolidated Financial Statements or the Notes thereto.

Virtusa Corporation and Subsidiaries

Schedule II—Valuation and Qualifying Accounts
For the years ended March 31, 2020, 2019, and 2018

Description	Balance at Beginning of Period	Charged to Costs and Expenses	Deductions/ Other	Balance at End of Period
		(In thousands)		
Accounts receivable allowance for doubtful accounts:				
Year ended March 31, 2018	$ 1,805	$ 1,248	$ 275	$ 3,328
Year ended March 31, 2019	$ 3,328	$ 864	$ (1,939)	$ 2,253
Year ended March 31, 2020	$ 2,253	$ 13	$ (725)	$ 1,541

3. Exhibits

We have filed the exhibits listed on the accompanying Exhibit Index, which is incorporated herein by reference.

Item 16. *Form 10-K Summary*

None.

EXHIBIT INDEX

Exhibit No.	Exhibit Title
2.1++	Equity Purchase Agreement by and among the Company, eTouch Systems Corp., and the equity holders thereof and Ani Gadre as equityholder representative, dated as of March 12, 2018 (previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-33625) filed on March 13, 2018 and incorporated by reference herein).
2.2++	Share Purchase Agreement by and among Virtusa Software Services Private Limited, Virtusa Consulting Services Private Limited, eTouch Systems (India) Pvt. Ltd and the equity holders thereof, dated as of March 12, 2018 (previously filed as Exhibit 10.2 to the Registrant's Current Report on Form 8-K (File No. 001-33625) filed on March 13, 2018 and incorporated by reference herein).
2.3++	Share Purchase Agreement dated as of November 5, 2015 by and among Virtusa Consulting & Services Private Limited, the stockholders listed in Schedules I and II therein and Polaris Consulting Services & Limited (previously filed as Exhibit 2.1 to the Registrant's Current Report on Form 8-K (File No. 001-33625) filed on November 5, 2015 and incorporated by reference herein).
2.4++	Amendment to Share Purchase Agreement, dated as of February 25, 2016, by and among the Company, Polaris Consulting & Services Limited and the other parties thereto (previously filed as Exhibit 2.1 to the Registrant's Current Report on Form 8-K (File No. 001-33625) filed on March 2, 2016 and incorporated by reference herein).
3.1	Amended and Restated By-laws of the Registrant (previously filed as Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-33625) filed on August 1, 2017 and incorporated by reference herein)
3.2*	Amendment No. 1 to Amended and Restated By-laws of the Registrant.
3.3	Form of Seventh Amended and Restated Certificate of Incorporation of the Registrant (previously filed as Exhibit 3.3 to the Registrant's Registration Statement on Form S-1, as amended (Registration No. 333-141952) and incorporated herein by reference).
4.1	Specimen certificate evidencing shares of the Registrant's common stock (previously filed as Exhibit 4.1 to the Registrant's Registration Statement on Form S-1, as amended (Registration No. 333-141952) and incorporated herein by reference).
4.2	Certificate of the Powers, Designations, Preferences and Rights of the 3.875% Series A Convertible Preferred Stock (previously filed as Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-33625) filed May 3, 2017 and incorporated by reference herein).
4.3	Certificate of the Powers, Designations, Preferences and Rights of the 3.875% Series A-1 Convertible Preferred Stock (previously filed as Exhibit 3.2 to the Registrant's Current Report on Form 8-K (File No. 001-33625) filed May 3, 2017 and incorporated by reference herein).
4.4*	Description of Virtusa Corporation's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934.
10.1	Lease by and between the Registrant and 132 Turnpike Road LLC dated as of October 23, 2017 (previously filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-33625) filed November 8, 2017 and incorporated herein by reference).
10.2	Lease by and between Orion Development (Private) Limited and Virtusa (Private) Limited, dated as of November 17, 2017 (previously filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-33625) filed February 8, 2018 and incorporated herein by reference).

Exhibit No.	Exhibit Title
10.3	Lease Deed by and between Andhra Pradesh Industrial Infrastructure Corporation Limited and Virtusa (India) Private Limited dated as of August 22, 2007 (previously filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-33625) filed September 7, 2007 and incorporated herein by reference).
10.4	Co-Developer Agreement and Lease Deed between the Registrant and APIICL, a state government agency in India, dated as of March 2007 (previously filed as Exhibit 10.15 to the Registrant's Registration Statement on Form S-1, as amended (Registration No. 333-141952) and incorporated herein by reference).
10.5++	Investment Agreement, dated as of May 3, 2017, between the Company and Orogen Viper LLC (previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-33625) filed May 3, 2017 and incorporated by reference herein).
10.6+	Form of Indemnification Agreement between the Registrant and each of its directors (previously filed as Exhibit 10.7 to the Registrant's Registration Statement on Form S-1, as amended (Registration No. 333-141952) and incorporated herein by reference).
10.7+	Amended and Restated Executive Agreement, dated July 25, 2018, by and between the Registrant and Kris Canekeratne (previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-33625) filed July 27, 2018 and incorporated herein by reference).
10.8+	Amended and Restated Executive Agreement, dated July 25, 2018, by and between the Registrant and Ranjan Kalia (previously filed as Exhibit 10.3 to the Registrant's Current Report on Form 8-K (File No. 0001-33625) filed July 27, 2018 and incorporated herein by reference).
10.9+	Amended and Restated Executive Agreement, dated July 25, 2018, by and between the Registrant and Thomas R. Holler (previously filed as Exhibit 10.4 to the Registrant's Current Report on Form 8-K (File No. 0001-33625) filed July 27, 2018 and incorporated herein by reference).
10.10+	Amended and Restated Executive Agreement, dated July 25, 2018, by and between the Registrant and Roger Keith Modder (previously filed as Exhibit 10.5 to the Registrant's Current Report on Form 8-K (File No. 0001-33625) filed July 27, 2018 and incorporated herein by reference).
10.11+	Amended and Restated Executive Agreement, dated July 25, 2018, by and between the Registrant and Samir Dhir (previously filed as Exhibit 10.2 to the Registrant's Current Report on Form 8-K (File No. 001-33625) filed on July 27, 2018 and incorporated herein by reference).
10.12+	Amended and Restated Executive Agreement, dated July 25, 2018, by and between the Registrant and Sundar Narayanan (previously filed as Exhibit 10.6 to the Registrant's Current Report on Form 8-K (File No. 001-33625) filed on July 27, 2018 and incorporated herein by reference).
10.13+	2007 Stock Option and Incentive Plan, including Form of Incentive Stock Option Agreement, Form of Non-Qualified Stock Option Agreement for Company Employees, Form of Non-Qualified Stock Option Agreement for Non-Employee Directors, and Form of Employee Restricted Stock Agreement (previously filed as Exhibit 10.15 to the Registrant's Annual Report on Form 10-K (File No. 001-33625) filed June 3, 2008 and incorporated herein by reference).
10.14+	Form of Deferred Stock Award Agreement under the 2007 Stock Option and Incentive Plan (previously filed as Exhibit 10.34 to the Registrant's Annual Report on Form 10-K (File No. 001-33625) filed May 27, 2011 and incorporated herein by reference).

Exhibit No.	Exhibit Title
10.15+	Virtusa Corporation 2015 Stock Option and Incentive Plan, including, Form of Non-Qualified Stock Option Agreement for Company Employees, Form of Non-Qualified Stock Option Agreement for Non-Employee Directors, Form of Non-Qualified Stock Option Agreement for Company Employees—INDIA, Form of Employee Restricted Stock Award Agreement, Form of Restricted Stock Award Agreement for Non-Employee Directors Form of Employee Restricted Stock Award Agreement—INDIA, Form of Employee Restricted Stock Unit Agreement, Form of Restricted Stock Unit Agreement for Non-Employee Directors, Form of Employee Restricted Stock Unit Agreement—INDIA, Form of Employee Performance Based Restricted Stock Award Agreement, Form of Employee Performance Based Restricted Stock Award Agreement—INDIA, Form of Employee Performance Based Restricted Stock Unit Agreement, Form of Employee Performance Based Restricted Stock Unit Agreement—INDIA (previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-33625) filed September 4, 2015 and incorporated by reference herein).
10.16+	Fourth Amended and Restated Director Compensation Policy, effective December 5, 2017 (previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-33625) filed December 7, 2017 and incorporated herein by reference).
10.17†	Master Professional Services Agreement (CITI-CONTRACT-14084-2015) dated as of July 1, 2015 by and between Polaris Consulting & Services Limited and Citigroup Technology, Inc. (previously filed as Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-33625) filed on February 8, 2016 and incorporated herein by reference).
10.18†	Amendment #1 to Polaris Master Professional Services Agreement and Termination of Virtusa Master Professional Services Agreement by and among Polaris Consulting & Services Limited, Citigroup Technology, Inc. and the Registrant, dated as of November 5, 2015 (previously filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q/A (File No. 001-33625) filed on May 23, 2016 and incorporated herein by reference).
10.19	Amendment #2 to Master Professional Services Agreement by and between Polaris Consulting & Services Limited and Citigroup Technology, Inc., effective as of March 1, 2016 (previously filed as Exhibit 10.37 to the Registrant's Annual Report on Form 10-K (File No. 001-33625) filed on May 27, 2016, and incorporated herein by reference).
10.20	Amendment #2 to Master Professional Services Agreement (CITI-CONTRACT-14084-2015) by and between Polaris Consulting & Services Limited and Citigroup Technology, Inc., dated as of May 1, 2017 (previously filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-33625) filed on August 8, 2017 and incorporated herein by reference).
10.21††	Amendment #5 to Master Professional Services Agreement, by and between Virtusa Corporation and Citigroup Technology, Inc., dated December 31, 2019 (previously filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-33625) filed on February 7, 2020 and incorporated herein by reference).
10.22	Amended and Restated Credit Agreement, dated as of February 6, 2018, by and among the Company, its guarantor subsidiaries party thereto, the lenders party thereto, JPMorgan Chase Bank, N.A., as administrative agent and J.P. Morgan Securities LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated, as joint bookrunners and lead arrangers (previously filed as Exhibit 10.28 to the Registrant's Annual Report on Form 10-K (File No. 001-33625) filed on May 24, 2019 and incorporated herein by reference).
10.23	Amendment No. 1 to Amended and Restated Credit Agreement, dated March 12, 2018 with JPMorgan Chase Bank, N.A. and the lenders party thereto (previously filed as Exhibit 10.3 to the Registrant's Current Report on Form 8-K (File No. 001-33625) filed March 13, 2018 and incorporated by reference herein).

Exhibit No.	Exhibit Title
10.24	Amendment No. 2 to Amended and Restated Credit Agreement dated October 15, 2019, by and among Virtusa Corporation, the lenders party thereto and JPMorgan Chase Bank, N.A. (previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8 -K (File No. 001-33625), filed October 17, 2019, and incorporated by reference herein).
21.1*	Subsidiaries of Registrant.
23.1*	Consent of KPMG LLP.
24.1*	Power of Attorney (included on signature page).
31.1*	Certification of principal executive officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of principal accounting and financial officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certification of principal executive officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. 1350.
32.2**	Certification of principal accounting and financial officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. 1350.
101. INS*	XBRL Instance Document – The instance document does not appear in the Interactive Data Files because its XBRL tags are embedded within the Inline XBRL document.
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104*	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibits 101.*)

\+ Indicates a management contract or compensation plan, contract or arrangement.

++ Schedules (or similar attachments) to the applicable share or stock purchase agreement or asset purchase agreement, as the case may be, have been omitted from this filing pursuant to Item 601(b)(2) of Regulation S-K. The Company supplementally will furnish copies of such omitted schedules (or similar attachments) to the Securities and Exchange Commission upon request.

† Confidential treatment has been granted for certain provisions of this Exhibit.

†† Certain portions of this exhibit (indicated by brackets and asterisks) have been omitted in accordance with the rules of the Securities and Exchange Commission.

* Filed herewith.

** Furnished herewith. This certification shall not be deemed filed for any purpose, nor shall it be deemed to be incorporated by reference into any filing under the Securities Act of 1933, amended or the Exchange Act of 1934, as amended.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on the 28th day of May, 2020.

VIRTUSA CORPORATION

By: /s/ KRIS CANEKERATNE
Kris Canekeratne
Chairman and Chief Executive Officer
(Principal Executive Officer)

POWER OF ATTORNEY AND SIGNATURES

We the undersigned officers and directors of Virtusa Corporation, hereby severally constitute and appoint Kris Canekeratne and Ranjan Kalia, and each of them singly, our true and lawful attorneys, with full power to them and each of them singly, to sign for us and in our names in the capacities indicated below, any amendments to this Annual Report on Form 10-K, and generally to do all things in our names and on our behalf in such capacities to enable Virtusa Corporation to comply with the provisions of the Securities Exchange Act of 1934, as amended, and all the requirements of the Securities Exchange Commission.

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated on the 28th day of May, 2020.

Signature	Title
/s/ KRIS CANEKERATNE Kris Canekeratne	Chairman and Chief Executive Officer (Principal Executive Officer)
/s/ RANJAN KALIA Ranjan Kalia	Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)
/s/ IZHAR ARMONY Izhar Armony	Director
/s/ VIKRAM S. PANDIT Vikram S. Pandit	Director
/s/ ROWLAND MORIARTY Rowland Moriarty	Director
/s/ WILLIAM K. O’BRIEN William K. O’Brien	Director
/s/ AL-NOOR RAMJI Al-Noor Ramji	Director
/s/ BARRY R NEARHOS Barry R. Nearhos	Director

Signature	Title
/s/ DEBORAH C. HOPKINS Deborah C. Hopkins	Director
/s/ JOSEPH DOODY Joseph Doody	Director

Exhibit 3.2

AMENDMENT TO THE

AMENDED AND RESTATED

BY-LAWS

OF

VIRTUSA CORPORATION

(the "Corporation")

Article V of the Amended and Restated Bylaws of the Corporation (the "By-laws"), is hereby amended to insert the following Section 5.11 immediately following Section 5.10 of such Article V:

"5.11. Exclusive Jurisdiction of Delaware Courts or the United States District Court for the District of Massachusetts. Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for any state law claims for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of or based on a fiduciary duty owed by any current or former director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim against the Corporation or any current or former director, officer, or other employee or stockholder of the Corporation arising pursuant to any provision of the Delaware General Corporation Law or the Certificate of Incorporation or these By-laws, or (iv) any action asserting a claim against the Corporation governed by the internal affairs doctrine. Unless the Corporation consents in writing to the selection of an alternative forum, the United States District Court for the District of Massachusetts shall be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act of 1933, as amended. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Section 5.11."

Exhibit 4.4

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

The summary of the general terms and provisions of the registered securities of Virtusa Corporation (the "Company," "we," "us," or "our") set forth below does not purport to be complete and is subject to and qualified in its entirety by reference to our Seventh Amended and Restated Certificate of Incorporation and the certificate of designations of our Series A Convertible Preferred Stock and Series A-1 Preferred Stock (collectively, our "certificate of incorporation") and our Amended and Restated By-laws, as amended (our "by-laws" and, together with our certificate of incorporation, our "Charter Documents"), each of which is incorporated by reference as an exhibit to our most recent Annual Report on Form 10-K filed with the Securities and Exchange Commission. We encourage you to read our Charter Documents and the applicable provisions of the General Corporation Law of the State of Delaware (the "DGCL") for additional information.

General

Our certificate of incorporation provides for common stock and authorizes shares of undesignated preferred stock, the rights, preferences and privileges of which may be designated from time to time by our board of directors. The total amount of our authorized capital stock consists of 125,000,000 shares, all with a par value of $0.01 per share, of which 120,000,000 shares are designated as common stock and 5,000,000 shares are designated as preferred stock. Of the preferred stock, 70,000 shares were initially designated 3.875% Series A Convertible Preferred Stock upon issuance and 38,000 shares were initially designated 3.875% Series A-1 Convertible Preferred Stock upon issuance. On May 17, 2017, all shares of Series A-1 Convertible Preferred Stock were automatically converted into shares of Series A Convertible Preferred Stock on a one to one basis.

Common Stock

Only our common stock is registered under Section 12 of the Securities Exchange Act of 1934, as amended.

Voting

Holders of our common stock are entitled to one vote for each share of common stock held of record for the election of directors and on all matters submitted to a vote of stockholders.

Except as described below under "Certain anti-takeover provisions of our certificate of incorporation and by-laws," a majority vote of our outstanding shares of capital stock entitled to vote is generally required to take action under our certificate of incorporation and by-laws, subject to certain limited special approval rights held by holders of our outstanding preferred stock.

Dividends

Holders of our common stock are entitled to receive dividends ratably, if any, as may be declared by our board of directors out of legally available funds, subject to any preferential dividend rights of any preferred stock then outstanding.

Other Rights

Upon our dissolution, liquidation or winding up, holders of our common stock are entitled to share ratably in our net assets legally available after the payment of all our debts and other liabilities, subject to the preferential rights of any preferred stock then outstanding.

Holders of our common stock have no preemptive, subscription, redemption or conversion rights. The rights, preferences and privileges of holders of common stock are subject to, and may be adversely affected by, the rights of the holders of outstanding shares of our Series A Convertible Preferred Stock and any other series of preferred stock that we may designate and issue in the future.

Series A Convertible Preferred Stock

The Series A Convertible Preferred Stock has a liquidation preference of $1,000 per share. In addition, cumulative preferred dividends accumulate on the Series A Convertible Preferred Stock at a rate of 3.875% per annum, and are payable quarterly in arrears. The payments on such dividends may be paid in cash or, at our option, in shares of our common stock. We may only pay such dividends in shares of common stock on or after August 1, 2018, subject to an aggregate share cap and so long as we have paid full cumulative dividends on the Series A Convertible Preferred Stock for all past dividend periods, and there is adequate current public information with respect to the Company and no volume limitations would apply to the resale of such shares, in each case under Rule 144 under the Securities Act.

The Series A Convertible Preferred Stock is convertible at the option of the holders at any time into shares of the Company's common stock at an initial conversion rate of 27.77778 shares of common stock per share of Preferred Stock (which is equal to an initial conversion price of approximately $36.00 per share of common stock), subject to certain customary anti-dilution adjustments. If at any time after May 3, 2020, the closing sale price of our common stock exceeds 150% of the then applicable conversion price of the Series A Convertible Preferred Stock for at least 20 trading days during a period of 30 consecutive trading days, the Company may cause some or all of the Series A Convertible Preferred Stock to be converted into shares of common stock at the then applicable conversion rate. Upon the conversion of the Series A Convertible Preferred Stock into common stock, we are required to pay all accumulated but unpaid dividends in additional shares of common stock valued at the then applicable conversion price on the date of such conversion.

Holders of Series A Convertible Preferred Stock are entitled to vote generally with the holders of common stock on an as-converted basis (including with respect to election of the members of our board of directors). Holders of Series A Convertible Preferred Stock are also entitled to certain limited special approval rights, including with respect to amendments to the Company's organizational documents that have an adverse effect on the Series A Convertible Preferred Stock, certain issuances of senior or pari passu securities, certain purchases, redemptions or other acquisitions of junior securities or payments, dividends or distributions thereon. In addition, so long as any shares of Series A Convertible Preferred Stock are outstanding and the initial purchaser and its affiliates collectively beneficially own at least a majority of the shares of Series A Convertible Preferred Stock beneficially owned by such holders immediately following the closing of our offering on May 3, 2017, the holders of Series A Convertible Preferred Stock, voting as a separate class by majority vote, are entitled to elect one director to serve on our board of directors.

With certain exceptions, upon a Fundamental Change (as defined in the Series A Convertible Preferred Stock Certificate of Designations), the holders of the Series A Convertible Preferred Stock may require that the Company repurchase for cash all or any whole number of shares of Series A Convertible Preferred Stock at a per-share repurchase price equal to 100% of the liquidation preference of such shares, plus accumulated and unpaid dividends. If we fail to effect such repurchase, the dividend rate on the Series A Convertible Preferred Stock will increase by 1% per annum and an additional 1% per annum on each anniversary of the date that the Company is required to effect such repurchase, during the period in which such failure to effect the repurchase is continuing, except that the dividend rate will not increase to more than 6.875% per annum. The definition of Fundamental Change includes a sale of substantially all the Company's assets, a change of control of the Company by way of a tender offer, merger or similar event, the adoption of a plan relating to the Company's liquidation or dissolution and certain delistings of our common stock, except in certain cases described in the Certificates of Designations in which the consideration received or to be received by the Company's common stockholders in a sale or change of control transaction consists primarily of publicly listed and traded securities.

Holders of Series A Convertible Preferred Stock that are converted in connection with a Make-Whole Fundamental Change, as defined in the Series A Convertible Preferred Stock Certificate of Designations, are, under certain circumstances, entitled to an increase in the conversion rate for such shares of Series A Convertible Preferred Stock based on the effective date of such event and the applicable price attributable to the event as set forth in a table contained in the Series A Convertible Preferred Stock Certificate of Designations. The definition of Make-Whole

Fundamental Change includes a sale of substantially all the Company's assets, a change of control of the Company by way of a tender offer, merger or similar event, the adoption of a plan relating to the Company's liquidation or dissolution and certain delistings of our common stock.

If any shares of Series A Convertible Preferred Stock have not been converted into common stock prior to May 3, 2024 (the "Maturity Date"), the Company will be required to repurchase such shares at a repurchase price equal to the liquidation preference of the repurchased shares plus the amount of accumulated and unpaid dividends thereon. If we fail to effect such repurchase, the dividend rate on the Series A Convertible Preferred Stock will increase by 1% per annum and an additional 1% per annum on each anniversary of the Maturity Date during the period in which such failure to effect the repurchase is continuing, except that the dividend rate will not increase to more than 6.875% per annum.

Pursuant to the Series A Convertible Preferred Stock Certificate of Designations and the investment agreement for our Series A Convertible Preferred Stock offering, we have, to the fullest extent permitted by the DGCL, renounced any interest or expectancy in, or right to be offered an opportunity to participate in, any business opportunity or classes or categories of business opportunities that may be a corporate opportunity for the initial purchaser of the Series A Convertible Preferred Stock, its director designees or their respective affiliates, as well as their respective principals, directors, general partners, officers, employees, agents and representatives acting on their behalf, except to the extent any such opportunity which is expressly offered to, or comes to the knowledge of, any of such persons solely in his or her capacity as a member of our board of directors.

Certain anti-takeover provisions of our certificate of incorporation and by-laws

Our certificate of incorporation and by-laws include a number of provisions that may have the effect of delaying, deferring or preventing another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below:

Board composition and filling vacancies

Subject to the rights of the holders of our Series A Convertible Preferred Stock, who have the right to designate one individual to serve on our board of directors, our board of directors is divided into three classes serving staggered three-year terms, with one class being elected each year. As a result, approximately one-third of the board of directors is elected each year. Our certificate of incorporation also provides that directors may be removed only for cause and then only by the affirmative vote of the holders of 75% or more of the shares then entitled to vote at an election of directors. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board of directors, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum. These provisions may deter a stockholder from removing incumbent directors and simultaneously gaining control of the board of directors by filling the vacancies created by such removal with its own nominees.

No written consent of stockholders

Our certificate of incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting and that stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our by-laws or removal of directors by our stockholders without holding a meeting of stockholders.

Meetings of stockholders

Our certificate of incorporation and by-laws provide that only a majority of the members of our board of directors then in office may call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders. Our by-laws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

Advance notice requirements.

Our by-laws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days prior to the first anniversary date of the annual meeting for the preceding year. The notice must contain certain information specified in the by-laws.

Amendment to certificate of incorporation and by-laws.

As required by the Delaware General Corporation Law, any amendment of our certificate of incorporation must first be adopted by a majority of our board of directors and must thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment and a majority of the outstanding shares of each class entitled to vote thereon as a class, except that the amendment of the provisions relating to stockholder action, board composition, limitation of liability and the amendment of our certificate of incorporation must be approved by not less than 75% of the outstanding shares entitled to vote on the amendment and not less than 75% of the outstanding shares of each class entitled to vote thereon as a class. Our by-laws may be amended by the affirmative vote of a majority of the directors then in office, subject to any limitations set forth in the by-laws; and may also be amended by the affirmative vote of at least 75% of the outstanding shares entitled to vote on the amendment, or, if our board of directors recommends that the stockholders approve the amendment, by the affirmative vote of the majority of the outstanding shares entitled to vote on the amendment, in each case voting together as a single class.

Undesignated preferred stock.

Our certificate of incorporation provides for 5,000,000 authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

Section 203 of the Delaware General Corporation Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. A "business combination" includes, among other things, a merger, asset or stock sale or other transaction resulting in a financial benefit to the interested stockholder. An "interested stockholder" is a person who, together with affiliates and associates, owns, or did own within three years prior to the determination of interested stockholder status, 15% or more of the corporation's voting stock. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder

- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers and employee stock plans, in some instances

- at or after the time the stockholder became interested, the business combination was approved by our board of directors of the corporation and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder

- any sale, lease, exchange, mortgage, pledge, transfer or other disposition involving the interested stockholder of 10% or more of the assets of the corporation

- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder

- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder

- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation

Exchange Listing

Our common stock is listed on The Nasdaq Global Select Market under the symbol “VRTU.”

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A.

Subsidiaries of Virtusa Corporation

Name of Subsidiary	Jurisdiction of Incorporation/Formation
Virtusa (Private) Limited	Sri Lanka
Virtusa Austria GmbH	Austria
Virtusa C.V.	Netherlands
Virtusa Canada Inc.	Canada
Virtusa Consulting Services Private Limited	India
Virtusa Financing C.V.	Netherlands
Virtusa Germany GmbH	Germany
Virtusa Hungary Kfth.	Hungary
Virtusa International, B.V.	Netherlands
Virtusa Malaysia Sdn. Bhd.	Malaysia
Virtusa Netherlands Cooperatief U.A.	Netherlands
Virtusa Securities Corporation	Massachusetts
Virtusa Singapore Private Limited	Singapore
Virtusa Switzerland GmbH	Switzerland
Virtusa UK Limited	United Kingdom
Virtusa US LLC	Delaware
Apparatus, Inc.	Indiana
InSource Holdings, Inc.	Connecticut
Virtusa AB	Sweden
Virtusa ApS	Denmark
Virtusa QFC IT Consulting LLC	Qatar
Virtusa Middle East FZ LLC	Dubai
Virtusa Consulting & Services Inc.	Canada
Virtusa Consulting & Services Ireland Ltd	Ireland
Polaris Consulting & Services Kft.	Hungary
Virtusa Consulting & Services Limited	United Kingdom
Polaris Consulting & Services Pte. Ltd.	Singapore
Polaris Consulting & Services Pty Ltd	Australia
Polaris Consulting and Services Japan K.K	Japan
Polaris Software Consulting & Services Sdn Bhd	Malaysia
Virtusa Consulting & Services SA	Switzerland
eTouch Systems Corp.	California
eTouch Systems (India) Pvt. Ltd	India
Virtusa Mexico S DE RL DE CV	Mexico
Virtusa Sp.z.o.o	Poland
Virtusa Consulting and Services Sociedad Limitada (SL)	Spain
Virtusa France SAS	France
TechChefs Software Private Limited	India

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Virtusa Corporation:

We consent to the incorporation by reference in the registration statements (Nos. 333 207818, 333-204338, 333-196218, 333-188908, 333-179330, 333-170792, 333-160981 and 333-145636) on Form S-8, (Nos. 333-184533 and 333-167505) on Form S-3, and (No. 333-218416) on Form S-3ASR of Virtusa Corporation of our reports dated May 28, 2020, with respect to the consolidated balance sheets of Virtusa Corporation as of March 31, 2020 and 2019, the related consolidated statements of income (loss), comprehensive income (loss), stockholders' equity, and cash flows for each of the years in the three-year period ended March 31, 2020, and the related notes and financial statement schedule II, Valuation and Qualifying Accounts, and the effectiveness of internal control over financial reporting as of March 31, 2020, which reports appear in the March 31, 2020 annual report on Form 10 K of Virtusa Corporation.

Our report on the consolidated financial statements refers to a change in accounting principle related to leases.

/s/ KPMG LLP

Boston, Massachusetts
May 28, 2020

Exhibit 31.1

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

I, Kris Canekeratne, certify that:

1. I have reviewed this Annual Report on Form 10-K of Virtusa Corporation;

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/ KRIS CANEKERATNE
Name: Kris Canekeratne
Title: *Chairman and Chief Executive Officer*
(Principal Executive Officer)

Date: May 28, 2020

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

I, Ranjan Kalia, certify that:

1. I have reviewed this Annual Report on Form 10-K of Virtusa Corporation;

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/ RANJAN KALIA
Name: Ranjan Kalia
Title: *Executive Vice President and Chief Financial Officer*
(Principal Financial and Accounting Officer)

Date: May 28, 2020

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

In connection with the Annual Report of Virtusa Corporation (the "Company") on Form 10-K for the period ended March 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Kris Canekeratne, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, to my knowledge as of the date hereof, that:

(1) 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/ KRIS CANEKERATNE
Name: Kris Canekeratne
Title: *Chairman and Chief Executive Officer*
(Principal Executive Officer)

Date: May 28, 2020

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

In connection with the Annual Report of Virtusa Corporation (the "Company") on Form 10-K for the period ended March 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Ranjan Kalia, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, to my knowledge as of the date hereof, that:

(1) 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/ RANJAN KALIA
Name: Ranjan Kalia
Title: *Executive Vice President and Chief Financial Officer*
(Principal Financial and Accounting Officer)

Date: May 28, 2020