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

FORM 10-K

(Mark One)

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

For the fiscal year ended August 31, 2022
OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE TRANSITION PERIOD FROM TO**

Commission File Number 001-39449

Duck Creek Technologies, Inc.
(Exact name of Registrant as specified in its Charter)

Delaware (State or other jurisdiction of incorporation or organization)	**84-3723837** (I.R.S. Employer Identification No.)
22 Boston Wharf Road, Floor 10 **Boston, MA** (Address of principal executive offices)	**02210** (Zip Code)

Registrant's telephone number, including area code: (888) 724-3509

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	DCT	Nasdaq Global Select Market

Securities registered pursuant to Section 12(g) of the Act: **None**

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

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or 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, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	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 common stock held by non-affiliates of the registrant, computed by reference to the closing price at which the common stock was sold on February 28, 2022, the last business day of the registrant's most recently completed second fiscal quarter, as reported on the Nasdaq Global Select Market, was approximately $3.2 billion. Shares of common stock held by each executive officer, director and holder of 10% or more of the outstanding common stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status does not reflect a determination that such persons are affiliates of the registrant for any other purpose.

The number of shares of Registrant's Common Stock outstanding as of October 25, 2022 was 132,740,018.

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Special Note Regarding Forward-Looking Statements

Some of the information contained in the sections entitled "Item 1. Business" and "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations," and elsewhere in this Annual Report on Form 10-K contain forward-looking statements that reflect our current views with respect to, among other things, future events and financial performance. You can identify these forward-looking statements by the use of forward-looking words such as "outlook," "believes," "expects," "potential," "continues," "may," "will," "should," "could," "seeks," "approximately," "predicts," "intends," "plans," "estimates," "anticipates," "target," "projects," "contemplates" or the negative version of those words or other comparable words. Any forward-looking statements contained in this report are based upon our historical performance and on our current plans, estimates and expectations in light of information currently available to us. The inclusion of this forward-looking information should not be regarded as a representation by us that the future plans, estimates or expectations contemplated by us will be achieved. Such forward-looking statements are subject to various risks and uncertainties and assumptions relating to our operations, financial results, financial condition, business, prospects, growth strategy and liquidity. For more information regarding these risks and uncertainties as well as certain additional risks that we face, refer to "Item 1A. Risk Factors" as well as the factors more fully described in "Item 7. Management's Discussion and Analysis of Financial Conditions and Results of Operations." Accordingly, there are, or will be, important factors that could cause our actual results to differ materially from those indicated in these statements. We believe that these factors include, but are not limited to:

- our history of losses;
- changes in our product revenue mix as we continue to focus on sales of our SaaS solutions, which will cause fluctuations in our results of operations and cash flows between periods;
- our reliance on orders and renewals from a relatively small number of customers for a substantial portion of our revenue, and the substantial negotiating leverage customers have in renewing and expanding their contracts for our solutions;
- the success of our growth strategy focused on SaaS solutions and our ability to develop or sell our solutions into new markets or further penetrate existing markets;
- our ability to manage our expanding operations, including our ability to attract and retain our key professional employees;
- intense competition in our market;
- third parties may assert we are infringing or violating their intellectual property rights;
- U.S. and global market and economic conditions (including the recent economic downturn, inflationary pressures and international political instabilities), particularly adverse in the insurance industry;
- additional complexity, burdens and volatility in connection with our international sales and operations;
- the length and variability of our sales and implementation cycles;
- data breaches, unauthorized access to customer data or other disruptions of our solutions;
- the significant influence that Apax VIII Fund, a global private equity fund (collectively, with its affiliates, "Apax") and Accenture plc, a public limited company incorporated in Ireland (collectively, with its affiliates, "Accenture"), will have on the composition of our board of directors, our management, business plans and policies, and any conflicts of interest between Apax and Accenture, on the one hand, and our other stockholders, on the other hand;

- impact of pandemics, including the COVID-19 pandemic, on U.S. and global economies, our business, our employees, results of operations, financial condition, demand for our products, sales and implementation cycles, and the health of our customers' and partners' businesses; and

- the other risks and uncertainties described under "Item 1A. Risk Factors."

These factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements that are included in this report. The forward-looking statements made in this report relate only to events as of the date on which the statements are made. We do not undertake any obligation to publicly update or review any forward-looking statement except as required by law, whether as a result of new information, future developments or otherwise.

If one or more of these or other risks or uncertainties materialize, or if our underlying assumptions prove to be incorrect, our actual results may vary materially from what we may have expressed or implied by these forward-looking statements. We caution that you should not place undue reliance on any of our forward-looking statements. You should specifically consider the factors identified in this report that could cause actual results to differ before making an investment decision to purchase our common stock. Furthermore, new risks and uncertainties arise from time to time, and it is impossible for us to predict those events or how they may affect us.

Basis of Presentation

As used in this Annual Report on Form 10-K unless the context otherwise requires, references to "we," "us," "our," the "Company," "Duck Creek," and similar references refer to Duck Creek Technologies, Inc. together with its subsidiaries, and the following terms have the meanings or are calculated as set forth below:

- We define "subscription revenue" as the revenue derived from the sale of our Software-as-a-service ("SaaS") solutions through recurring fee arrangements for the period indicated.

- We define "ACV" as the committed total contract value of new software sales in dollar terms divided by the corresponding minimum number of committed months, with the resultant minimum monthly commitment being multiplied by twelve.

- We define "carriers" as property and casualty ("P&C") insurance carriers.

- We define "core systems" as the following key functions of carriers: policy administration, claims management and billing.

- We define "customers" as buying entities that contract individually for our products and services. For example, multiple subsidiaries of a single carrier may each constitute a customer if each entity contracts with us separately. By contrast, a carrier that uses our products across multiple subsidiaries under a single enterprise license agreement would constitute a single customer.

- We define "DWPs" as the gross dollar value of total premiums paid to carriers by policyholders.

- Munich Re Specialty Insurance is a description for the insurance business operations of affiliated companies in the Munich Re Group that share a common directive to offer and deliver specialty property and casualty insurance products and services in North America.

Certain monetary amounts, percentages, and other figures included in this Annual Report on Form 10-K have been subject to rounding adjustments. Percentage amounts included in this Annual Report on Form 10-K have not in all cases been calculated on the basis of such rounded figures, but on the basis of such amounts prior to rounding. For this reason, percentage amounts in this Annual Report on Form 10-K may vary from those obtained by performing the same calculations using the figures in our consolidated financial statements included elsewhere in this Annual Report on Form 10-K. Certain other amounts that appear in this Annual Report on Form 10-K may not sum due to rounding. When we state that we are the leading cloud-based software-as-a-service (SaaS) provider of core systems for the global property and casualty (P&C) and general insurance industry, we are basing our leadership on our subscription revenue for fiscal 2022.

Our fiscal year ends on August 31. Unless otherwise noted, any reference to a year preceded by the word "fiscal" refers to the fiscal year ended August 31 of that year. For example, references to "fiscal 2022" refer to the fiscal year ended August 31, 2022. Any reference to a year not preceded by "fiscal" refers to a calendar year.

Market and Industry Data

Certain market and industry data included in this Annual Report on Form 10-K has been obtained from third party sources that we believe to be reliable. Market estimates are calculated by using independent industry publications, government publications, and third-party forecasts in conjunction with our assumptions about our markets. We have not independently verified such third-party information. While we are not aware of any misstatements regarding any market, industry or similar data presented herein, such data involves risks and uncertainties and is subject to change based on various factors, including those discussed under the headings "Forward-Looking Statements" and "Item1A. Risk Factors" in this Annual Report on Form 10-K.

Summary of Material Risks Associated With Our Business

Our business involves significant risks, some of which are summarized below. The principal risks and uncertainties affecting our business include the following:

- We have a history of losses and may not achieve or maintain profitability in the future.
- We face intense competition in our market, which could negatively impact our business, results of operations and financial condition and cause our market share to decline.
- Our business may be materially adversely impacted by U.S. and global market and economic conditions adverse to the insurance industry.
- Our customers may defer or forego purchases of our solutions or professional services in the event of global events such as weakened global economic conditions, inflationary pressures, international political instability and other events that we may not foresee.
- Customer staffing and resource allocation challenges, particularly with respect to IT resources, may result in the lengthening of sales cycles and the delay, reduction in scope or cancellation of current or anticipated projects.
- Weakening of our customers' businesses could result in reductions or limitations on growth in our revenue.
- Factors outside of our control, including, but not limited to, natural catastrophes, the geopolitical landscape, and terrorism may adversely impact the P&C insurance industry, preventing us from expanding or maintaining our existing customer base and increasing our revenue. Our business is subject to the risks of earthquakes, fire, floods, and other natural catastrophic events, and to interruption by man-made problems such as computer viruses.
- If we are unable to continue the successful development of our direct sales team and the expansion of our relationships with our strategic partners, sales of our solutions, and consequently our professional services, will suffer and our growth would be slower than we project.
- If we are unable to retain our personnel and hire and integrate additional skilled personnel, we may be unable to achieve our goals and our business will suffer.
- Increases in labor costs, including wages, and an overall tightening of the labor market, could adversely affect our business, results of operations or financial condition.
- Changes in our product revenue mix and gross margins as we continue to focus on sales of our SaaS solutions will cause fluctuations in our results of operations and cash flows between periods, which may cause our stock price to decline.

- We have relied and expect to continue to rely on orders from a relatively small number of customers in the P&C and general insurance industry for a substantial portion of our revenue, and the loss of any of these customers or a reduction in revenue from any of these customers would significantly harm our business, results of operations and financial condition.
- Our large customers have substantial negotiating leverage, which may require that we agree to terms and conditions that result in increased cost of sales, decreased revenue and lower average selling prices and gross margin percentages, all of which would harm our results of operations.
- There may be consolidation in the insurance industry, which could reduce the use of our products and services and adversely affect our revenues.
- Our business depends on customers renewing and expanding their SaaS arrangements, term licenses or maintenance and support arrangements for our solutions. A decline in our customer renewals and expansions could harm our future results of operations.
- Our growth strategy is focused on continuing to develop our SaaS solutions, which has, and may continue to increase our costs. In addition, if we are unable to successfully grow our SaaS business or navigate our growth strategy, our reputation, results of operations and growth expectations could be significantly harmed.
- Failure to manage our expanding operations effectively could harm our business.
- If we are unable to develop or sell our solutions into new markets, attract new customers in existing markets, or expand existing customer relationships, our revenue will not grow as expected.
- Failure of any of our established solutions to satisfy customer demands or to maintain market acceptance would harm our business, results of operations, financial condition and growth prospects.
- If the market for enterprise cloud computing, including SaaS solutions, develops slower than we expect or declines, it could have a material adverse effect on our business, financial condition and results of operations.
- We may not be able to obtain capital when desired on favorable terms, if at all, and we may not be able to obtain capital or complete acquisitions through the use of equity without dilution to our stockholders.
- Increases in professional services revenue as a percentage of total revenue or lower professional services margin percentages could adversely affect our overall gross margins and profitability.
- Real or perceived errors or failures in our solutions or implementation services may affect our reputation, cause us to lose customers and reduce sales which may harm our business and results of operations and subject us to liability for breach of warranty claims.
- Our sales and implementation cycles are lengthy and variable, depend upon factors outside our control, and could cause us to expend significant time and resources prior to generating revenue.
- Our business is subject to seasonal fluctuations that may cause our results of operations to vary from period to period.
- If we are unable to develop, introduce and market new and enhanced versions of our solutions, we may be put at a competitive disadvantage and our operating results could be adversely affected.
- We expect to continue to expand through acquisitions or partnerships with other companies, which may divert our management's attention and result in unexpected operating and technology integration difficulties, increased costs and dilution to our stockholders.
- We may not receive significant revenue from our current research and development efforts for several months or years, if at all.
- Assertions by third parties of infringement or other violation by us of their intellectual property rights could result in significant costs and substantially harm our business and results of operations.

- Our estimates of certain operational metrics, as well as of total addressable market and market growth, are subject to inherent challenges in measurement.
- Pursuant to the Stockholders' Agreement, Apax and Accenture have significant influence through the voting power of the shares of our common stock eligible to vote in the election of our directors and on other matters submitted to a vote of our stockholders, and Apax's and Accenture's interests may conflict with ours or yours in the future.
- If the ownership of our common stock continues to be highly concentrated, it may prevent you and other minority stockholders from influencing significant corporate decisions and may result in conflicts of interest.
- The market price and trading volume of our common stock may be volatile, which could result in losses for our stockholders.
- Future offerings of debt or equity securities by us may materially adversely affect the market price of our common stock.
- The market price of our common stock could be negatively affected by sales of substantial amounts of our common stock in the public markets.

You should carefully consider the risks summarized above together with the text of the risk factors included in Item 1A of Part I of this Annual Report on Form 10-K and the other information set forth in this Annual Report on Form 10-K and in our other public filings. If any of the risks or uncertainties summarized above actually occur, our business, financial condition, prospects, results of operations and cash flow could be materially and adversely affected. In that case, the market price of our common stock could decline. The risks summarized above are not the only risks we face. Additional risks or uncertainties not currently known to us, or that we currently deem immaterial, may also have a material adverse effect on our business, financial condition, prospects, results of operations or cash flows, as well as the market price of our securities. We cannot assure you that any of the events summarized in the risk factors above will not occur.

Item 1. Business.

Company Overview

Duck Creek Technologies is the leading cloud-based SaaS provider of core systems for the global property and casualty (P&C) and general insurance industry. Core systems comprise the end-to-end back-office infrastructure of insurance companies and include underwriting, rating and policy management; billing and payments; distribution management; claims management; reinsurance management; and data insights. Insurance companies choose Duck Creek Technologies' solutions for its flexibility and seamless cloud-based deployment or on-premises deployment, based on a respective insurance company's technology strategy.

We have achieved our leadership position by combining over twenty years of deep domain expertise with the differentiated SaaS capabilities and low-code configurability of our technology platform. We believe we are the first company to provide carriers with an end-to-end suite of enterprise-scale core system software that is purpose-built as a SaaS solution. Our product portfolio is built on our modern technology foundation, the Duck Creek Platform*,* and works cohesively to improve the operational efficiency of insurers' core processes as well as other critical functions. The Duck Creek Platform enables our customers to be agile and rapidly capitalize on market opportunities, while reducing their total cost of technology ownership. The Duck Creek Platform also provides out-of-the-box convenience while being highly configurable and customizable.

The core business functions of insurers are complex and data rich, typically requiring large ongoing investments in domain specific technology. Heightened end-user expectations, increased competition, and new and evolving risks pose new challenges for carriers, creating the need for software that fosters agility, innovation and speed to market. However, a large portion of the P&C and general insurance market continues to rely on home-grown, legacy technology systems that are costly and inefficient to maintain, difficult to upgrade, and lack functional flexibility and sophistication.

In recent years, some carriers have turned to newer alternatives to legacy systems. These systems have been designed for on-premise environments and lack the inherent benefits of purpose-built SaaS solutions, perpetuating the limitations, inflexibility and cost of utilizing legacy systems. By contrast, our SaaS solutions accelerate carriers' agility and speed to market by enabling rapid, low-code product development, and protecting carriers' unique content configurations and integrations while providing upgrades and updates via a continuous delivery cycle. We have developed a substantial SaaS customer base and believe that we have established a meaningful first-mover advantage by demonstrating the superiority of SaaS solutions for core systems in the P&C and general insurance industry. We began offering SaaS solutions for core systems in the global P&C and general insurance industry in 2013 and signed our first customer in 2014. We believe competitors will have to make significant investments of time and resources in order to offer similar SaaS products.

Our expertise in and deep understanding of the P&C and general insurance industry has enabled us to develop a unified suite of insurance software products tailored to address the key challenges faced by carriers worldwide. Our solutions promote insurers' nimbleness by enabling rapid integration and streamlining the ability to capture, access and utilize data more effectively. The Duck Creek Suite includes several products that support the P&C and general insurance process lifecycle, such as:

- Duck Creek Policy: a solution that enables insurers to develop and launch new insurance products and manage all aspects of policy administration, from product definition to quoting, binding and servicing
- Duck Creek Billing: a solution that supports fundamental payment and invoicing capabilities (such as billing and collections, commission processing, disbursement management and general ledger capabilities) for all insurance lines and bill types
- Duck Creek Claims: a solution that supports the entire claims lifecycle from first notice of loss through investigation, payments, negotiations, reporting and closure

In addition, we offer other innovative solutions, such as Duck Creek Rating, Duck Creek Insights, Duck Creek Digital Engagement, Duck Creek Distribution Management, Duck Creek Reinsurance Management, Duck Creek Anywhere Managed Integrations and Duck Creek Industry Content, which provide additional features and functionalities that further help our customers meet the increasing and evolving demands of the insurance industry. Our customers purchase and deploy these solutions via Duck Creek OnDemand, our SaaS solution, either individually or as a full suite. Historically, we have also sold our products through perpetual and term license arrangements, most of which include maintenance and support arrangements. We offer professional services, primarily related to implementation of our products, in connection with both our SaaS solutions and perpetual and term license arrangements.

Substantially all of our new bookings come from the sale of SaaS subscriptions of Duck Creek OnDemand. For the fiscal years ended August 31, 2022, 2021 and 2020, SaaS ACV bookings represented 97%, 97%, and 96% of our total ACV bookings, respectively.

Our strong customer relationships are a key driver of our success. We believe these relationships are a result of our ability to develop innovative solutions that incorporate our deep domain expertise into products that serve mission critical functions of our customers' day-to-day operations. Our customer base is comprised of a range of insurance carriers, including some of the largest global companies in the P&C and general insurance industry such as Progressive, Liberty Mutual, AIG, The Hartford, Berkshire Hathaway Specialty Insurance, GEICO and Munich Re Specialty Insurance, as well as regional carriers, such as UPC, Coverys, Avant Mutual, IAT Insurance Group and Mutual Benefit Group. We have over 150 insurance customers worldwide, including four of the top five North American carriers. In addition, our customers have won numerous industry awards for innovative products that were developed with our solutions.

We have a broad partner ecosystem that includes third-party solution partners who provide complementary capabilities as well as system integrators ("SIs") who provide implementation and other related services to our customers. These partnerships help us grow our business more efficiently by enhancing our sales force through co-marketing efforts and giving us the scale to service our growing customer base. We have relationships with over 80 companies across a diverse set of services and offerings, including 23 SIs with over 6,000 Duck Creek implementation resources who help to deploy our solutions. We maintain key partnerships with leading SIs, such as Accenture, Capgemini, Cognizant and EY as well as leading technology companies such as Microsoft, Salesforce, Hyland, Verisk and Lexis Nexis, as well as Insurtech start-ups, such as Arity, Friss, SPLICE Software, and Cape Analytics. These partnerships have allowed us to further build on our deep domain expertise in the P&C and general insurance industry, extend the value of our solutions and provide our customers with additional end-to-end functionality.

Our subscription revenues have grown significantly in recent years, both in absolute terms and as a percentage of our business. For the fiscal year ended August 31, 2022, we generated subscription revenues of $153.5 million, an increase of 23% compared to subscription revenues of $125.3 million for the fiscal year ended August 31, 2021. We generated total revenues of $302.9 million for the fiscal year ended August 31, 2022, an increase of 16% compared to total revenues of $260.4 million for the fiscal year ended August 31, 2021. We have made significant investments in our software platform and sales and marketing organization, and incurred net losses of $8.3 million and $16.9 million for the fiscal years ended August 31, 2022 and 2021, respectively. See "Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations" for more information.

P&C and General Insurance Industry Overview

The P&C and general insurance industry is large, complex and highly regulated. In 2022, the industry serviced approximately $2.7 trillion of DWP spanning thousands of carriers globally. In addition to being one of the largest global industries, we believe it is also one of the most resilient towards economic fluctuations. For a majority of businesses and consumers, insurance is a necessity rather than an amenity. As a result, overall spend on insurance products has continued to grow steadily over the long-term, even across periods of economic volatility. The industry is fragmented by the geographies in which carriers operate, the lines of insurance they underwrite, the customers they target, their distribution strategies, and the overall amount of DWP that they generate. DWP, which quantifies the gross dollar value of total premiums paid to carriers by policyholders, is a key measurement of scale for the P&C and general insurance industry.

P&C and general insurance carriers sell products that protect policyholders from losses to property, bodily injury, litigation and other liabilities. Large carriers often have global operations and offer a wide range of insurance products. They are also required to organize and report financial information by country, and sometimes by state or province within a country. This creates a large portfolio of insurance products with varied regulatory requirements. Smaller carriers generally have a narrower geographic focus and/or offer a more limited set of insurance products but often still require sophisticated technical capabilities to manage their businesses. The Duck Creek Suite meets the most complex and sophisticated technology needs of the largest carriers, and can also be scaled to cost-effectively serve the needs of smaller carriers.

Core systems, including policy, billing and claims, power carriers' critical operations. Core systems house insurance product structure, such as rates, rules and forms, and generate data that allows insurers' actuarial and underwriting staff to continuously modify and improve their product offerings and provide more personalized customer service. They also manage the claims lifecycle, from first notice of loss to settlement. In addition, core systems integrate with agent and broker portals, operational data stores and data warehouses as well as business intelligence and analytics systems.

It is not uncommon for a single carrier to use systems from multiple vendors (or internally developed applications) as core systems for different insurance lines or geographies, or for discrete core system processes (e.g., policy, billing, and claims) within a single insurance line and geography. A carrier may use our software for certain parts of its business and deploy solutions from different vendors for other parts of its business. As a result, we have a market opportunity to achieve greater penetration within our existing customer base, as well as increase our customer base by servicing new customers who are not currently using our products. The following diagram provides a framework for understanding the multifaceted processes of insurers:

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Our Market Opportunity

Carriers invest substantial time and resources to develop and maintain their information technology ("IT") operations. We estimate that our total addressable market, representing the portion of this spending that is focused specifically on core system software, is approximately $6 billion in the United States and $15 billion globally. To estimate our total addressable market, we categorized the P&C and general insurance market into tiers based on DWP per carrier as reported by S&P Global, A.M. Best and Swiss Re, both within the United States and globally. We then estimated average price per DWP for our core systems solutions, accounting for tiered price discounts at different tiers, and multiplied the price per DWP by the total amount of DWP at each tier available both in the United States and globally.

Challenges Facing the Industry and the Limitations of Legacy Systems

We believe that reliance on legacy systems and other technologies designed for on premise environments limit carriers' ability to respond to many of the significant challenges facing the insurance industry, including:

- **Heightened end-user expectations.** Today's end-users expect seamless and tailored experiences with every interaction, which has led to increase in demand for digital distribution and servicing capabilities. For instance, personal and commercial insurance end-users expect improved digital experiences with real-time multi-channel service.
- **Increased competition in the marketplace**. Carriers are diversifying into new geographies and product lines to drive profitable DWP growth. In addition, new entrants, such as upstart 'Insurtech' companies, are seeking to disrupt the traditional insurance market with targeted technological innovations. In response to escalating competition, carriers are investing in new technology solutions to increase speed to market and reduce operating expenses.
- **New and evolving risks**. Carriers are under pressure to offer new and more complex insurance products in order to address evolving use cases. Emerging risk categories, such as cybersecurity, terrorism and the sharing economy (e.g. the use of automobiles for personal as well as commercial needs), are creating demand for new insurance products. These new and evolving risks require carriers to be increasingly agile in their product development.
- **Increased size of losses in assets and the number of catastrophic events.** The increased intricacy of assets, such as automobiles that include full onboard computers, has increased the cost of repairs and claim sizes. Additionally, natural disasters with large scale catastrophic losses have become more frequent. More than ever, carriers need access to accurate and complete data about risk to minimize their losses.
- **The rise of the IoT.** Carriers have predominately relied on traditional data sources for underwriting, pricing and claims handling. The rise of Internet of Things ("IoT") devices, such as sensors, telematics devices and drones, is significantly increasing the amount of data available to carriers. This enables them to assess risk on a more granular level, identify losses faster, simplify claims processing and mitigate fraud. Taking advantage of new volumes of data requires open and flexible core systems that allow insurers to move more quickly and make powerful data-driven decisions.
- **Emerging capabilities and advancing technologies.** Carriers can better analyze risk through enhanced pricing models, artificial intelligence and machine learning technology. These emerging technologies offer insurers the opportunity to better understand and price risk in real time and a potential competitive advantage from realizing the value of data science research. As a result, carriers are more aggressively investing in technology to keep up with innovations and integrations.
- **Global economic volatility.** Recent global events, including the ongoing COVID-19 pandemic, national and local economic downturns, labor market and inflationary pressures and international political instabilities have, and may continue to, put pressure on carrier buying habits. As a result, carriers may curtail or downsize their purchasing decisions.

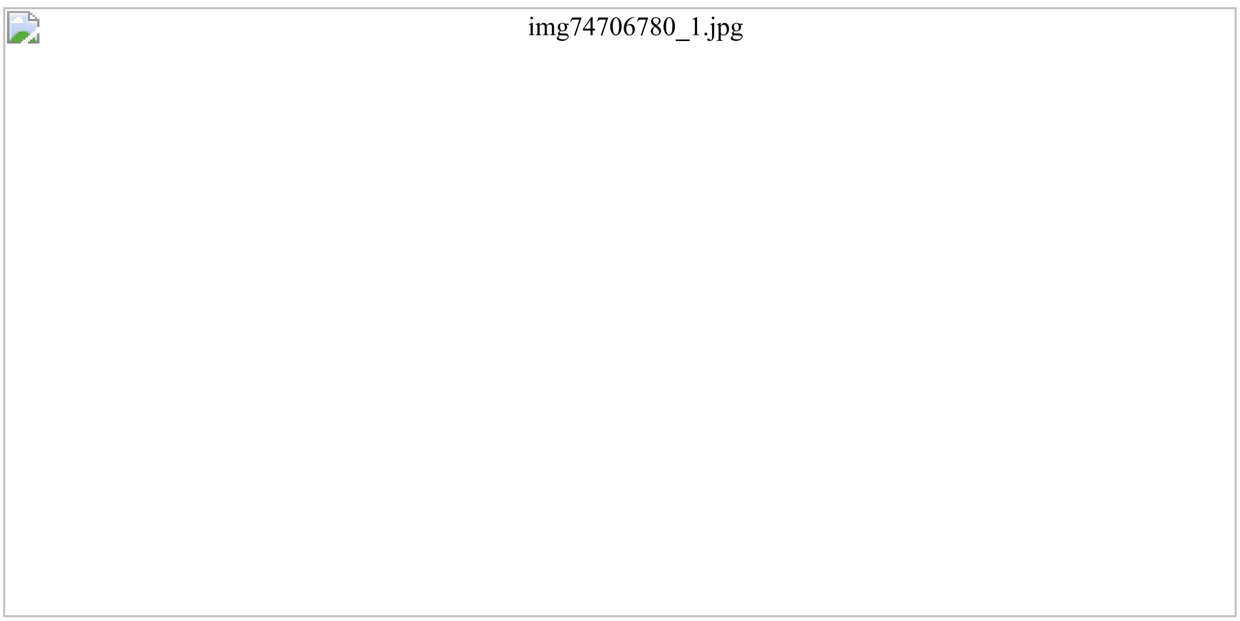
These challenges are placing increased pressure on insurance carriers to improve consumer experience, business agility and speed to market. However, many insurers rely on legacy systems or alternatives designed for on-premise environments that are difficult to change, update or integrate without significant incremental custom-code development. Carriers relying upon these systems are generally unable to manage and analyze data at the pace required to effectively guide operational and risk mitigation and pricing decisions. These systems are difficult to update without significant IT spend and efforts, resulting in higher operating costs and slower speed to market.

We believe that insurers will increasingly look to adopt SaaS solutions, like Duck Creek OnDemand, that are designed to enhance their organizational agility, product innovation, and consumer experiences, allowing them to react quickly to evolving consumer preferences and efficiently capture market opportunity, while reducing their total cost of ownership.

SaaS offerings like Duck Creek OnDemand have become the preferred deployment option for carriers. The market has completely transitioned from being skeptical of SaaS solutions to embracing the technology and security advancements offered with SaaS solutions. Earlier adopters of SaaS solutions in the P&C space are finding they are able to focus on growing their business leveraging evergreen technology while delivering their digital platform strategies. As stated in Aite-Novarica's Cloud Computing in Insurance: Current Adoption and Plans report as issued in June 2021, since 2018, the percentage of insurers using cloud has increased from more than 70% to more than 90%. Three-quarters of insurers are planning to expand their use of cloud computing in the next 18 months; one-third plan to "expand significantly." Gartner designated Duck Creek a Leader in the 2021 Magic Quadrant for P&C Core Platforms noting Cloud Maturity as one of our key strengths. Duck Creek's OnDemand SaaS solution is positioned to enable carriers to achieve their digital transformation SaaS adoption initiatives.

The Duck Creek Approach

Our solutions provide a sustainable competitive advantage by helping our customers overcome the limitations of legacy and/or in-house systems to meet the challenges of the current P&C and general insurance industry.



- **Deep domain expertise**. With more than twenty years of operating experience in the P&C and general insurance industry, we have developed deep industry-specific domain expertise. This enables us to offer a broad range of integrated solutions embedded with smart, intuitive pre-built functionality, designed to meet the precise use-case requirements of insurers. Our software incorporates and integrates product definition templates and other key industry content from relevant third parties (such as Insurance Services Office, Inc. and the National Council on Compensation Insurance) and regulatory bodies. Our in-depth understanding of the P&C and general insurance industry allows us to continue to address the various and evolving needs of carriers, thereby continuing to enhance their customer experiences.
- **Comprehensive, future-ready offerings.** Our cohesive suite of enterprise-scale core system software is comprised of leading applications that are designed to meet the full range of our customers' needs. We deliver upgrades that can be applied across our full suite, improving common functionality across our customers' systems. We continuously update industry content, allowing our customers to efficiently keep pace with market and regulatory changes. We also develop and maintain supplementary proprietary content that allows our customers to define, sell and service complex insurance product lines in a single integrated environment.
- **Scalability for all carriers**. Our solutions are designed to meet the most complex and sophisticated technology needs of the largest carriers but can also be scaled to cost-effectively serve the needs of smaller carriers.
- **Low-code configurability**. Using low-code tools designed for ease, speed and accuracy, both technical and non-technical users can tailor our solutions to meet their business needs. These intuitive tools allow our customers to create new products and make changes to existing products and related workflows - without custom coding - accelerating speed to market and improving productivity. We also offer application and configuration tools for technical users who design and manage business processes, user interfaces and web applications.
- **Differentiated SaaS architecture**. Our technical architecture is designed to keep our customers' content configuration and business rules separated from our primary Duck Creek application and platform code. This framework allows continuous delivery of updates and upgrades to our software without disrupting a carrier's specific business rules and definitions. By contrast, existing legacy systems and alternatives to legacy systems designed for on-premise environments typically require costly and disruptive system-wide re-coding and testing projects with each upgrade cycle.
- **Open architecture**. Our Duck Creek Anywhere Managed Integrations strategy provides fast, easy access to the third party data and services that customers need. This is executed through a pool of APIs, integration methodologies and partner connectors, all designed to enable our customers to efficiently leverage the services that best match their strategies.
- **Unique insights.** We enable insurers to use data as a strategic asset. Using Duck Creek Insights, carriers are able to efficiently gather a consolidated picture of their business across internal and third-party data sources (including data lakes, legacy systems, IoT, policy, claims, etc.), deliver critical information to execute business decisions and employ new methods of automated decision making.
- **Mission-focused organization**. We are driven by our mission to empower carriers to extend and improve the coverage they provide to their customers and to enhance end-user experiences. This allows insurers to reimagine their operations and shape the future of insurance to provide every person and enterprise protection from life's uncertainties. Our strong culture and organizational ethos, coupled with a management team that has decades of leadership in the insurance software industry and is actively involved in the development of our products, drives our company to continue to innovate and deliver high-quality tools and services to our customers.

Our Growth Strategy

We intend to extend our position as the leading provider of SaaS solutions for the core systems of the P&C and general insurance industry. The key components of our strategy are:

- **Growing our customer base.** We believe there is substantial opportunity to continue to grow our customer base across the P&C and general insurance industry. We have over 150 insurance customers, which represents a relatively small portion of carriers both in North America and globally. We are investing in our sales and marketing force, specifically targeting key accounts and leveraging current customers as references.
- **Deepening relationships with our existing customers**. In the past three years, in aggregate we have generated 68% of our bookings from sales to existing customers. In addition tAnywhere managedo pursuing new customers, we intend to leverage our track record of success with our existing customers by selling additional products and targeting new opportunities within these organizations. Many customers purchase our solutions to address a specific portion of their core system needs. We believe we will35 unique have the opportunity to further transition the remaining components of their core systems to our SaaS solutions and sell the Duck Creek Suite to additional business units within our customer base.
- **Expanding our partner ecosystem**. We have a large and expanding network of partnerships that is comprised of third-party solution partners who provide complementary capabilities as well as third-party SIs and consulting partners who provide implementation and other related services to our customers. These partners help us grow our business more efficiently by enhancing our sales force through co-marketing efforts and giving us the scale to service our expanding customer base. We continue to extend our network of partners to drive meaningful interest in, and adoption of, our products.
- **Continuing to innovate and add new solutions.** We have made significant investments in research and development and intend to continue to do so. We are focused on enhancing the functionality and breadth of our current solutions as well as developing and launching new products and tools to address the evolving needs of the P&C and general insurance industry. For example, we introduced *Anywhere Managed Integrations*, which allows our customers to seamlessly connect with numerous popular third-party providers' data and service solutions, such as Lexis Nexis, Verisk and Hyland, without having to bear the technical burden and higher cost of individually integrating them. We currently offer our customers 35 unique Anywhere Managed Integrations and counting.
- **Broadening our geographical presence.** We believe there is significant need for our solutions on a global basis and, accordingly, opportunity for us to grow our business through further international expansion. We are broadening our global footprint and intend to establish a presence in additional international markets.
- **Transitioning our term and perpetual license customers to SaaS**. Some of our customers use versions of our solutions that were purchased via perpetual or term licenses and these are typically installed on-site. We will seek to transition these customers to our current SaaS solutions, which we believe will generate increased long-term economic value.
- **Pursuing acquisitions**. We have acquired and successfully integrated several businesses complementary to our own to enhance our software and technology capabilities. We intend to continue to pursue targeted acquisitions that further complement our product portfolio or provide us access to new markets. We will carefully evaluate acquisition opportunities to assess whether they will be successful within our business model and whether they will meet our strategic objectives. We believe that through sustained execution of our disciplined and selective acquisition strategy, we will be able to effectively integrate targeted companies or assets into our model and grow our business.

Our Products

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Our customers purchase and deploy our solutions either individually for a specific P&C or general insurance industry process or as part of a combined suite to manage all aspects of the core P&C and general insurance lifecycle. Our portfolio includes the following core system products:

- **Duck Creek Policy**. A full lifecycle solution for the development of products as well as quoting, binding and servicing policies across all channels, from agents and brokers to end-users. *Duck Creek Policy* maintains all the coverages, limits and exclusions that are used to create specific products. It also serves as the system of record for any endorsements, additions or changes for policies in force. We also offer Underwriting Workbench, an add-on module that extends the underwriting functionality of Duck Creek Policy by providing the ability to group quotes and policies into accounts, giving a holistic view of information relevant to underwriting.
- **Duck Creek Billing**. A solution that provides core payment and invoicing capabilities (such as billing and collections, commission processing, disbursement management and general ledger capabilities) for all insurance lines and bill types. Our billing system allows insurers to implement unique business rules and handle flexible payment plans to meet customer expectations and address increasingly complex billing strategies and practices. Our technology and automation allow greater control over billing processes and better management of payment collections, which can improve our customers' financial performance and customer service.
- **Duck Creek Claims**. Supports the entire claims lifecycle from first notice of loss through investigation, payments, negotiations, reporting and closure. Effective claims management is integral to carriers' profitability and has become increasingly complex, time-sensitive and data-dependent. Duck Creek Claims provides enhanced technology, enabling greater information sharing and collaboration as well as

providing a configuration toolset that gives all users power over the application data, screens and processes.

We also offer the following products to further enable our customers to meet the challenges and increasing demands of the P&C and general insurance industry:

- **Duck Creek Rating**. Duck Creek Rating can be implemented on a standalone basis or as a component of Duck Creek Policy. Duck Creek Rating gives insurers the ability to quickly develop new rates and models and delivers accurate quotes in real-time based on the complex rating algorithms that are unique to each carrier's line of business. To remain competitive in today's marketplace, insurers are re-evaluating the efficacy of their rating systems. Duck Creek Rating provides insurers more granular risk segmentation and greater pricing precision.
- **Duck Creek Insights**. An insurance analytics solution that allows carriers to gather and analyze data from internal and external sources and facilitates rapid analysis and reporting in a single system. Duck Creek Insights allows carriers to use data as a strategic asset in real time, empowering them to quickly capture and leverage data across and beyond their organizations, deliver leaders and business users crucial information needed to execute intelligent actions and employ new methods of automated decision-making.
- **Duck Creek Digital Engagement**. A family of offerings designed to provide intuitive, multi-channel digital interactions between P&C insurers and their agents, brokers and policyholders. Duck C9,000 insurance formsreek Digital Engagement offers online digital applications, including our Duck Creek Producer, AgencyPortal, Turnstile and AgencyConnect tools.
- **Duck Creek Distribution Management**. A solution that automates sales channel activities for agents and brokers, including producer onboarding, compliance and compensation management, thereby reducing time spent on manual processes. Duck Creek Distribution Management helps carriers stay compliant with distribution licensing and reporting while also offering insurers the ability to quickly and effectively change producer commission plans using simple configurations.
- **Duck Creek Reinsurance Management.** Automates critical financial and administrative functions required by primary carriers, such as contracts, bills, recoveries and payables, to manage contractual relationships and provide settlement with reinsurance providers. Duck Creek Reinsurance Management supports all reinsurance structures, provides a full audit trail and analytics and produces statements, bordereaux, cover letters, footnotes and supporting details.
- **Duck Creek Industry Content**. Provides pre-built content (including base business rules, product designs, rating algorithms, data capture screens and workflows) for specific insurance lines of business, such as commercial auto, inland marine and workers' compensation. In offering Duck Creek Industry Content, we actively maintain and update approximately 700 web-based screens and 9,000 insurance forms across several industry standard bodies such as AAIS, ACORD, ISO and NCCI, which reduces the effort required by our customers to comply with these standards.

Our Unique Architecture: the *Duck Creek Platform*

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Every insurer takes a distinct approach to designing the policies that they offer and the core business processes that they employ to support them. How a carrier chooses to assemble and rate the underlying elements of an insurance policy (such as the weighting ascribed to roof age for pricing a homeowner’s policy) represents its unique content configurations. For many carriers, these configurations have been built up over years of investment and development and represent a key competitive differentiator. These nuanced distinctions around coverages, limitations, rating factors and the data used to determine risk appetite and pricing can be the difference between a successful insurer and one facing losses. Additionally, the distinctive routing and handling of service decisions or claims triage can impact the cost and profitability of an insurer.

The Duck Creek Platform configuration layer serves as the development environment for carriers to create and modify insurance products (such as a commercial auto insurance policy), and the associated business rules and workflows that govern how insurance products are processed within a carrier, such as:

- **Product Design**: the unique way in which carriers use individual data points (such as driving record and the make/model of a car) to design individual policies, including coverages, limits, pricing and deductibles, such as vanishing deductibles or pay-per-mile auto policies.
- **Business Rules**: carrier-specific criteria, including the types of policies they will write, channel and distribution rules (such as giving underwriting authority to distribution partners), and customer-specific claims handling.
- **Workflows**: the ways in which an individual insurer manages its back-office operations (such as the unique processes for handling different types of claims).

The configuration layer is separated from our solutions and platform code, and this decoupling allows our customers to maintain their unique configurations even as technology advances and we provide upgrades. This architecture provides our customers several unique advantages:

Faster innovation cycles enabled by the inheritance model. A defining characteristic of the Duck Creek Platform is our inheritance model that enables carriers to create and re-use insurance products - and components of insurance products - in layers which are linked together dynamically. This approach enables carriers to create new insurance products with speed and consistency.

Using this inheritance model, insurers can create a new insurance product simply by adding a new layer or tailoring a specific component in an existing layer using low-code configuration. This ensures consistency in operations across a carrier's products using the same common base layer, while also allowing them to make changes efficiently across many insurance products by changing a single component within a common layer.

Importantly, our inheritance model enhances carriers' agility and speed to market by accelerating new product development and allowing them to quickly capitalize on new and evolving opportunities while avoiding costly re-work required with legacy systems and alternative systems that were designed for on-premise environments. In addition to product designs, our inheritance model can also be applied to workflows and business rules.

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Low-code configuration tools. Our low-code configuration tools allow technical and non-technical users alike to rapidly tailor our applications to meet their specific needs. These tools enable our customers to make meaningful changes to their products, processes or business rules with drag-and-drop authoring features and functionality without having to perform custom coding. This framework enables users to operate with speed while significantly reducing software development costs.

User Experience. Our Platform enables carriers to build differentiated user experiences. Using the Duck Creek Design System along with our low-code configuration tools, carriers can create experiences based on each user persona's preferred engagement channel or deliver experiences designed using Duck Creek tools via third-party interfaces. The Duck Creek Design System encapsulates years of industry research distilled into a best practice library that supports the needs of the various users of core systems – from agents to customer service professionals to policyholders and others.

Anywhere Managed Integrations. In today's insurance market, every transaction, workflow and decision must be informed by as much data and knowledge as possible and leverage services from internal and external sources to complete end-to-end processes. Openness to integration with third-party services, including the ability to work with the expanding world of Insurtech services and evolving artificial intelligence and machine learning technology, is critical to carrier's success. Through a robust set of REST APIs, integration accelerators and partner connectors, the open architecture of the Duck Creek Platform allows carriers to quickly and easily choose from myriad available services, which provides them the flexibility to leverage the tools and capabilities that best match their business strategy.

Our Customers

We have over 150 insurance customers, including four of the top five North American insurance carriers. Many of our customers serve multiple lines of insurance (including personal, commercial and specialty) and are leaders among each of these distinct categories. In addition, certain of our customers operate our solutions in multiple countries. Our customers, many of which we have had long-term relationships with, range from large national and multi-national carriers, such as Progressive, Liberty Mutual Insurance, AIG, The Hartford, Berkshire Hathaway Specialty Insurance, GEICO, and Munich Re Specialty Insurance to regional carriers, such as UPC Insurance, Farm Bureau Financial, Avant Mutual, IAT Insurance Group, and Mutual Benefit Group. Approximately 83 of our insurance customers use one or more of our SaaS products, including over 47 insurance customers that use our SaaS core system products.

When utilizing our solutions, products, and Platform, our customers benefit from increased agility, greater flexibility, and overall lower total cost of ownership.

Sales and Marketing

We have made significant investments in our sales and marketing efforts. As of August 31, 2022, our sales and marketing organization included 217 employees. The majority of our sales and marketing strategies are focused on driving SaaS bookings growth. Our Chief Marketing Officer and Chief Operating Officer, together with our sales, marketing and executive teams, promote our global brand by working to cultivate long-term relationships with current and prospective customers and other key industry influencers in each of the geographies in which we are active.

We sell our solutions and services through a direct sales team, comprised of our inside sales team, territory-based sales directors, and solutions consultants. Our inside sales team focuses on initiating contact with prospective customers and generating interest in cross-selling opportunities with existing customers. Our territory-based sales directors oversee sales to new or existing customers, and as part of the sales and marketing process, engage our solution consultants. Our solution consultants possess deep insurance domain expertise and are also experts in the technical aspects of our solutions and customer implementations. They engage with customers to understand their specific business needs and present live demonstrations of our products tailored to address those needs. Our solution consultants play a critical role in demonstrating the robust and complex features of our applications and helping carriers build an understanding of how to successfully integrate the Duck Creek Platform into their operations.

Our partnerships are also an important aspect of our sales and marketing strategy. We have a broad partner ecosystem that includes third-party solution partners who provide complementary capabilities as well as third-party SIs who provide implementation and other related services to our customers. These partnerships provide additional market validation to our offerings, enhance our sales force through co-marketing efforts and offer greater speed and efficiency of implementation capabilities and related services to our customers. We have relationships with over 80 different companies and counting across a diverse set of services and offerings. These relationships include partnerships with 23 SIs, including Accenture, Capgemini, Cognizant, EY and Mindtree. Since 2017, we have grown the number of professionals in Duck Creek practices within these delivery partners from approximately 700 to over 6,000. We also maintain relationships with leading technology companies and solution providers, such as Microsoft, Hyland, Verisk and Lexis Nexis, as well as Insurtech start-ups, such as Arity, Friss, SPLICE Software, and Cape Analytics. These partnerships enhance the value of our solutions and provide our customers additional end-to-end functionality.

We engage in a variety of traditional and online marketing activities designed to provide sales support, build brand recognition and enhance our reputation as an industry leader. Our marketing efforts help articulate our vision of how Duck Creek can shape the future of the P&C and general insurance industry with affordable, flexible and open technology. Through our integrated marketing strategy we drive demand and brand recognition by leveraging digital advertising, search engine optimization, webinars, social media, media engagement and thought leadership and various event-based marketing initiatives. We participate at industry conferences, are published frequently in the industry press and have active relationships with major industry analysts. Additionally, we host an annual user conference, Formation, where our customers both participate in and deliver presentations on a wide range of Duck Creek and insurance technology topics. Formation facilitates discussions among industry participants and serves as a great resource for tips on using our Platform and industry best practices. We also invite potential customers and partners to Formation as we believe customer references are a key component of driving new sales. We believe we are able to capitalize on the resulting network effect as we build goodwill through customer reviews and testimonials, word-of-mouth referrals, and references from other industry participants.

Research and Development

Our research and development efforts focus on enhancing our offerings, in particular our SaaS solutions, to help our customers improve their operations, drive greater digital engagement with their customers, agents, and brokers, and gather, store and analyze data to improve business decisions. As of August 31, 2022, our research and development team was comprised of 524 employees, including product management.

We make meaningful investments in developing the product definitions engineering personnel and integrations necessary for our solutions to meet the market requirements of each P&C and general insurance line of business and country or state in which we market our solutions. This market-segment specific functionality must be updated regularly in order to stay current with regulatory changes in each region. We rely heavily on input from our customers in developing products that meet their needs. Our product management team leads our research and market validation efforts and provides guidance to our management and engineering teams based on their collective domain expertise and in-depth knowledge and understanding of our customers, as well as their expertise in general technology advancements beyond the P&C and general insurance industry. As a result, our product management team engages regularly with customers, partners, and other industry participants, as well as our customer service, sales and marketing, and research and development organizations. Our product management team manages our development projects generally and serves to align separate functions within the company with a single strategic vision.

Our product and engineering teams are responsible for the design, development and testing of our products. They work together to launch new products and functionality as well as continuously enhance and support our existing products. These teams include both technology and insurance experts. We leverage a collaborative, team-based and test-driven approach to engineering so we can deliver new updates frequently. We believe that the pace of change in the P&C and general insurance industry requires a steady stream of continuous delivery of upgrades to our software solutions, which incrementally improve user experiences, core processes, and insurance products.

SaaS Operations, Security and Compliance

We invest significantly in our Duck Creek OnDemand operations team, which is one of the fastest growing elements of our business and is responsible for all aspects of service delivery for Duck Creek OnDemand. This includes full management of the network and cloud infrastructure that supports our applications as well as day-to-day management to ensure the availability of applications, including through triage and ticket management to support our customers. In addition, our security team, led by our Chief Information Security Officer, manages both security operations as well as policies to ensure that security is proactively built into our products and services. Our security and operations teams are based in our state-of-the-art SaaS Operations Center in Rosemont, Illinois, with additional team members located in geographies that enable around-the-clock coverage for critical customer operations. In addition to the investments we make in our security and operations teams, we continue to build on our technology tools and strong partner relationships, including our investments in best-in-class security and monitoring tools and our unique ongoing partnership with Microsoft's Azure team, which helps us to provide the smooth and efficient operation of Duck Creek OnDemand.

Competition

The market for core system software for the P&C and general insurance industry is highly competitive and fragmented. Increased spending by carriers on software applications and the emergence of new platforms that have expanded from the modernization of core systems to include new digital engagement and data and analytics solutions have generated significant interest among investors and entrepreneurs. Increased capital allows market participants to adopt more aggressive go-to-market strategies, improve existing products, introduce new ones, and consolidate with other vendors. This market is also subject to changing technology preferences, shifting customer needs, and the introduction of new models, products, and services, which fosters a highly competitive market. Additionally, existing relationships between potential customers and our competitors may make selling our solutions to such customers challenging due to the high costs and risk of business interruption associated with switching providers. Our current and future competitors vary in size and in the breadth and scope of the products and services they offer, and may be larger, have longer operating histories, or have greater available financial, technical, sales, marketing and other resources than we do, as well as larger installed customer bases. Our current principal competitors include, but are not limited to:

- **Internally Developed Technology and Software**: Many large insurance companies have sufficient IT resources to develop and maintain proprietary internal systems, or to consider developing new custom systems. Often these in-house technology programs will be supported by large scale consulting firms such as IBM, Wipro, Cognizant, and others.
- **P&C and General Insurance Industry Software Vendors**: Vendors such as Guidewire, Insurity, Majesco, Sapiens and others provide software products that are specifically designed to meet the needs of insurers.
- **Horizontal Software Vendors**: Vendors such as Oracle, SAP, Pegasystems and others provide software that can be customized to address the needs of insurers.
- **IT Services Firms**: Firms such as DXC Technology, NTT Data and Tata Consultancy Services Limited offer software and systems that can be adapted for the P&C and general insurance industry.

We believe the principal competitive factors in our market include, but are not limited to:

- Breadth and depth of product functionality,
- Line of business support that fits the needs of each element of a carrier’s business,
- Total cost of ownership,
- Domain expertise in the P&C and general insurance industry,
- Scalability, reliability and uptime of application,
- Quality of implementation and collaborative customer service, including service and support staff for users,
- Modern and intuitive technology and user experience,
- Brand awareness, reputation and customer references,
- Integration with a wide variety of third-party applications and systems.

Our ability to remain competitive in the geographies in which we are active will depend to a great extent upon our ongoing performance in these areas.

Intellectual Property

The software industry is characterized by the existence of a large number of patents and frequent claims and related litigation regarding patent and other intellectual property rights. Our success and ability to compete depend in part upon our ability to protect our proprietary technology and to establish and adequately protect our intellectual property rights. To accomplish these objectives, we rely on a combination of patent, trademark, copyright, and trade secret laws in the United States and other jurisdictions, as well as license agreements and other contractual protections.

As of August 31, 2022, we owned eight issued U.S. patents, one of which expired in October 2022. Our remaining seven U.S. patents are scheduled to expire between May 2023 and January 2032. The competitive advantages from the rights granted under our patents and the exact protection these patents provide cannot be predicted with certainty. Our existing patents, and any future patents, may be contested, circumvented or invalidated, and we may not be able to prevent third parties from infringing upon these patents. We anticipate filing additional patent applications to protect our rights in the future to the extent that it would be beneficial and cost effective.

We also rely on certain registered and unregistered trademarks to protect our brand. We have registered the trademarks "Duck Creek" and related design marks in the United States and certain other jurisdictions. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered tradenames or trademarks that incorporate variations of our tradenames or trademarks. Any claims or customer confusion related to our tradenames or trademarks could damage our reputation and brand and substantially harm our business and results of operations.

In addition, we seek to protect our intellectual property rights by entering into confidentiality and invention assignment agreements with our employees and contractors, as well as confidentiality agreements with third parties. Despite these precautions, it may be possible for unauthorized parties to copy or use our proprietary information to create products or services that compete with ours. Policing unauthorized use of our technology and intellectual property rights can be difficult. The enforcement of our intellectual property rights depends on any legal actions, which can be costly and time consuming, against infringers being successful, which may not always be the case even when our rights have been infringed.

Employees and Human Capital Resources

As of August 31, 2022, we had 1,883 employees and 156 contingent employees.

Our business requires attracting, developing, and retaining a motivated team of individuals who thrive in a culture based on integrity, rationality, and collegiality that embraces diversity, inclusion, and belonging. Understanding and proactively anticipating the priorities and needs of our current and future employees is important to realizing our mission to be the platform P&C insurers trust to engage, innovate, and grow efficiently.

Attracting, Developing, and Retaining Employees

Our recruiting, development, and retention objectives focus on attracting skilled and engaged employees who contribute the talent and diverse perspectives critical to our innovative, forward-looking, and inclusive workforce. Our recruiting process actively sources diverse talent and is designed to reduce bias, supporting our ability to hire candidates with professional qualifications, personal potential, and differing perspectives. Our flexible work policies expand our ability to hire and retain talent in geographies where we do not have physical offices. Fostering career progression by encouraging regular professional development empowers our employees to pursue their career aspirations, which is critical to developing and retaining our employees. We invest in broad-based development for all of our employees in various ways such as skills-building programs, on-demand learning options, mentoring programs, and leadership development courses. In an effort to create more development opportunities for all employees, we are currently expanding our intern, mentoring, and leadership development programs. We gauge progress and efficacy, identify opportunities for change, and pursue solutions through tracking and analyzing data from various sources such as annual talent reviews and our progress toward hiring/promotion goals in our development, diversity and inclusion plans.

Diversity, Inclusion, and Belonging

We believe that understanding and respecting another's perspective, experience, background, and beliefs provides an opportunity to expand horizons, challenge complacency, and foster empathy. Diversity of perspective, experience, background, and beliefs fuel our innovative, collaborative, and engaged workplace. Realizing greater ethnic, racial, and gender diversity across all levels of our organization is, and will continue to be, an ongoing journey. We strive to be equitable in our hiring, promotion, job assignment, and compensation practices. Some of our initiatives to create greater diversity and belonging among our employees include inclusive recruiting and outreach programs for diverse candidates, employee resource groups, and management-led listening circles.

Positive Corporate Culture

Our employees are critical to our success, and we believe creating a positive, inclusive culture is essential to attracting and retaining engaged employees. Our values of integrity, rationality, and collegiality are the foundation of how we work with one another. We incorporate a wide variety of communication and training activities to encourage collaboration amongst our colleagues around the world.

Health and Wellness

We believe a healthy, engaged, and high-performing workforce is part of our competitive advantage. We want all of our employees to thrive, and we regularly re-evaluate how to best support our employees' wellness, health, and safety through benefits and resources. Our current benefit and wellness programs drive engagement that positively impacts our culture, job satisfaction, recruiting, and retention programs. In response to the COVID-19 pandemic, we expanded our physical, mental, and family health programs and informational outreach through professional development opportunities and personal empowerment, safe and healthy workspaces, wellness initiatives (including physical, emotional, and mental health), equitable compensation, benefits, and recognition.

Labor Relations

None of our employees are represented by a labor union or covered by a collective bargaining agreement. We focus heavily on employee engagement and aspire to be a great place to work for our employees. We recognize the critical role that our supervisors and managers play in fostering a productive, inclusive and respectful work environment, and we encourage employees to work directly with their supervisors, where possible, to efficiently and effectively resolve workplace concerns. We also respect our employees' rights to voluntarily establish and join unions and similar associations without unlawful interference. We strive to work collaboratively with the councils and associations that represent our workers.

Regulations

The legal environment of cloud-based software businesses is evolving in the United States and other jurisdictions, and we are subject to a variety of laws and regulations in the United States and abroad that involve matters central to our business. Many of these laws and regulations are still evolving and being tested in courts and could be interpreted in ways that could harm our business. These may involve privacy, data protection and personal information, content, intellectual property, data security, and data retention and deletion. In particular, we are subject to federal, state and foreign laws regarding privacy and protection of people's data. Foreign data protection, privacy, content and other laws and regulations can impose different obligations or be more restrictive than those in the United States. United States federal and state (and foreign) laws and regulations, which in some cases can be enforced by private parties in addition to government entities, are constantly evolving and can be subject to significant change. As a result, the application, interpretation, and enforcement of these laws and regulations are often uncertain, particularly in the evolving industry in which we operate, and may be interpreted and applied inconsistently from country to country and inconsistently with our current policies and practices.

Our customers upload to and store customer data in our cloud-based platform. This presents legal challenges to our business and operations, such as consumer privacy rights or intellectual property rights. Both in the United States and internationally, we must monitor and comply with a wide variety of laws and regulations regarding the data stored and processed with our cloud-based platform as well as in the operation of our business. For example, the European Union's GDPR, which became effective on May 25, 2018, has resulted and will continue to result in significantly greater compliance burdens and costs for companies with users and operations in the European Union. Under the GDPR, fines of up to 20 million Euros or up to 4% of the annual global revenues of the infringer, whichever is greater, can be imposed for violations. The GDPR imposes several stringent requirements for controllers and processors of personal data and could make it more difficult and/or more costly for us to use and share personal data. Further, Brexit has created uncertainty with regard to the regulation of data protection in the United Kingdom. In particular, it is unclear whether the United Kingdom will enact data protection laws or regulations designed to be consistent with GDPR and how data transfers to and from the United Kingdom will be regulated. In addition, the California Consumer Privacy Act ("CCPA"), which went into effect on January 1, 2020, limits how we may collect and use personal data. The impact of this law on us and others in our industry is and will remain unclear until additional regulations are issued. The effects of the CCPA are potentially far-reaching, however, and may require us to modify our data processing practices and policies and incur substantial compliance-related costs and expenses. Non-compliance with these laws could result in penalties or significant legal liability. We have invested, and continue to invest, human and technology resources into our GDPR compliance efforts and our data privacy compliance efforts generally.

COVID-19 Update

In December 2019, a novel strain of coronavirus ("COVID-19") was reported to have surfaced in Wuhan, China. In January 2020, COVID-19 spread to other countries, including the United States and others in which we operate, and efforts to contain the spread of COVID-19 intensified. In March 2020, the World Health Organization declared COVID-19 a global pandemic. The outbreak and certain preventative or protective actions that governments, businesses and individuals have taken in respect of COVID-19 have resulted in extended global business disruptions. The severity and duration of these business disruptions remain largely fluid and ultimately will depend on many factors, including the speed and effectiveness of containment efforts throughout the world.

In March 2020, we implemented various measures to ensure the safety of our employees, customers and suppliers. Over a two-day period, we shifted 100% of our employee base to work from home; due to the success of our work from home program, we have since established a remote-first policy for all employees. Under this policy, employees can work from home but have the option to work out of physical office locations when they would like, pursuant to any governmental regulations or other pertinent guidance regarding workplace safety. Additionally, our operational model has enabled us to minimize the impact to sales productivity or delivery of our solutions to customers to date. Since shifting to working remotely, we have successfully completed several product live launches and initiated new projects applying a fully virtual model.

While the full impact of COVID-19 remains unknown and COVID-19 has impacted certain companies' decisions regarding technology spending, we have not experienced a material disruption on our bookings or sales to date. For the fiscal year ended August 31, 2022, we generated growth of 16% in total revenue, 23% in subscription revenue and 25% in SaaS ARR (as defined below) as compared to the fiscal year ended August 31, 2021. For the fiscal year ended August 31, 2021, we generated growth of 23% in total revenue, 49% in subscription revenue and 21% in SaaS ARR as compared to the fiscal year ended August 31, 2020. Our ability to grow revenue within our existing customer accounts has remained strong, with a SaaS Net Dollar Retention Rate (as defined below) of 107.5% and 120.4% for the years ended August 31, 2022 and 2021, respectively.

As of August 31, 2022, we had $273.1 million of liquidity, including $155.3 million in cash and cash equivalents, $117.8 million in short-term investments, and $44.3 million of availability under our revolving credit facility.

The magnitude of the effect of COVID-19 on our business will depend, in part, on the length and severity of the restrictions and other limitations on our ability to conduct our business in the ordinary course. The longer the pandemic continues or resurges, the more severe the impacts described above may be on our business. The extent, length and consequences of the pandemic, including our customers' purchasing decisions and other reactions, are uncertain and impossible to predict, but could be material. Any re-openings followed by subsequent restrictions or closings could also have a material impact on us. See "Risk Factors—Risks Related to Our Business and Industry—Public health outbreaks, epidemics or pandemics, including the global COVID-19 outbreak, could harm our business, results of operations, and financial condition."

Corporate Information

Duck Creek Technologies, Inc. was incorporated in Delaware in November 2019. In August 2020, we completed the initial public offering of our common stock (the "IPO") and our common stock trades on the Nasdaq Global Select Market ("Nasdaq") under the symbol "DCT." Our principal executive offices are located at 22 Boston Wharf Road, Floor 10, Boston, MA 02210, and our telephone number is (888) 724-3509.

Our website address is www.DuckCreek.com. We make available on or through our website certain reports and amendments to those reports that we file with or furnish to the Securities and Exchange Commission ("SEC") in accordance with the Securities Exchange Act of 1934, as amended (Exchange Act). These include our annual reports on Form 10-K, our quarterly reports on Form 10-Q, and our current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of Securities Exchange Act of 1934, as amended ("the Exchange Act")

Item 1A. Risk Factors.

Our business involves significant risks, some of which are set forth below. You should carefully consider the risks described below together with other information set forth in this Annual Report on Form 10-K and in our other public filings. If any of the following risks or uncertainties actually occur, our business, financial condition, prospects, results of operations and cash flow could be materially and adversely affected. In that case, the market price of our common stock could decline. The risks discussed below are not the only risks we face. Additional risks chor uncertainties not currently known to us, or that we currently deem immaterial, may also have a material adverse effect on our business, financial condition, prospects, results of operations or cash flows, as well as the market price of our securities. We cannot assure you that any of the events discussed in the risk factors below will not occur.

Risks Related to Our Business and Industry

We have a history of losses and may not achieve or maintain profitability in the future.

We have incurred net losses of $8.3 million, $16.9 million, and $29.9 million in fiscal 2022, 2021 and 2020, respectively. We must generate and sustain higher revenue levels in future periods to become profitable, and, even if we do, we may not be able to maintain or increase our profitability. We expect to continue to incur losses for the foreseeable future as we expend substantial financial and other resources on, among other things:

- sales and marketing, including expanding our direct sales team and online marketing programs, particularly for larger customers;
- investments in our people, including hiring and retention of employees with technology and engineering skills;
- investments in the development of new products and new features for, and enhancements of, our existing product portfolio;
- expansion of our operations and infrastructure organically and through acquisitions and strategic partnerships, both domestically and internationally; and
- general administration, including legal, risk management, accounting, and other expenses related to being a public company.

These expenditures may not result in additional revenue or the growth of our business and total costs may be greater than we currently predict based on both internal and external factors, such as the current economic downturn, high inflationary pressures and international political instabilities, many of which are beyond our control. Accordingly, we may not be able to generate sufficient revenue to offset our expected cost increases and achieve and sustain profitability. If we fail to achieve and sustain profitability, the market price of our common stock could decline.

We face intense competition in our market, which could negatively impact our business, results of operations and financial condition and cause our market share to decline.

The market for our solutions and services is intensely competitive. The competitors we face in any sale may change depending on, among other things, the line of business purchasing the solution, the solution being sold, the geography in which we are operating and the size of the carrier to which we are selling. For example, we are more likely to face competition from small independent firms when addressing the needs of small insurers. Our competitors may compete on the basis of price, the time and cost required for software implementation, custom development, or unique product features or functions. Outside of the United States, we are more likely to compete against vendors that may differentiate themselves based on local advantages in language, market knowledge and pre-built content applicable to that jurisdiction. We also compete with vendors of horizontal software products that may be customized to address needs of the P&C insurance industry.

Additionally, many of our prospective customers operate firmly entrenched legacy systems, some of which have been in operation for decades. Our implementation cycles are lengthy, variable and require the investment of significant time and expense by our customers. These expenses and associated operating risks attendant on any significant process of re-engineering and technology implementation exercise, may cause customers to prefer maintaining legacy systems. Also, maintaining legacy systems may be so time consuming and costly for our customers that they do not have adequate resources to devote to the purchase and implementation of our solutions. We also compete against technology consulting firms that either helped create such legacy systems or may own, in full or in part, subsidiaries that develop software and systems for the P&C insurance industry. As we expand our portfolio of solutions, we may begin to compete with software and service providers we have not competed against previously. Such potential competitors offer data and analytics tools that may, in time, become more competitive with our offerings. In addition, instead of purchasing P&C software products from a third party, including one of our direct competitors, our customers may decide to internally develop their own systems.

We expect the intensity of competition to remain high in the future. In addition to existing competitors, we believe investment in emerging Insurtech companies, which seek to innovate and disrupt the insurance industry, is growing rapidly and could produce new competitive threats. Continuing intense competition could result in increased pricing pressure, increased sales and marketing expenses, and greater investments in research and development, each of which could negatively impact our profitability. In addition, the failure to increase, or the loss of market share, would harm our business, results of operations, financial condition and/or future prospects. Some of our current and potential competitors may have longer operating histories and greater financial, technical, sales, marketing and other resources than we do, as well as larger installed customer bases. As a result, such competitors may be able to devote greater resources to the development, promotion and sale of their solutions than we can devote to ours, which could allow them to respond more quickly than we can to new or emerging technologies and changes in customer needs, thus leading to their wider market acceptance. To the extent any competitor has existing relationships with potential customers for other applications, those customers may be unwilling to purchase our solutions because such existing relationships create customer “stickiness.” For instance, if a potential customer uses one product from a competitor that powers a critical element of the customer’s day-to-day operations, they may be more likely to turn to such competitor in the future to the extent they require further product solutions, rather than purchasing one or more solutions from our suite. We may not be able to compete effectively and competitive pressures may prevent us from acquiring and maintaining the customer base necessary for us to increase our revenue and profitability.

In addition, our industry is evolving rapidly, and we anticipate the market for solutions will become increasingly competitive. If our current and potential customers move a greater proportion of their data and computational needs to the cloud, new competitors may emerge that offer services either comparable or better suited than ours to address the demand for such solutions, which could reduce demand for our offerings. To compete effectively we will likely be required to increase our investment in our product development and technology, as well as the personnel and third-party services required to improve reliability and lower the cost of delivery of our SaaS solutions. This may increase our costs more than we anticipate and may adversely impact our results of operations.

Our current and potential competitors may also establish cooperative relationships among themselves or with third parties to further enhance their resources and offerings. Current or potential competitors may be acquired by other vendors or third parties with greater available resources. As a result of such acquisitions, our current or potential competitors might be more able than we are to adapt quickly to new technologies and customer needs, to devote greater resources to the promotion or sale of their products and services, to initiate or withstand substantial price competition, or to take advantage of emerging opportunities by developing and expanding their product and service offerings more quickly than we can. Additionally, they may hold larger portfolios of patents and other intellectual property rights as a result of such relationships or acquisitions. If we are unable to compete effectively with these evolving competitors for market share, our business, results of operations and financial condition would be materially and adversely affected.

Our business may be materially adversely impacted by U.S. and global market and economic conditions adverse to the insurance industry.

We expect to continue to derive most of our revenue from solutions and additional services we provide to the P&C insurance industry. Given the concentration of our business activities in this industry, we will be particularly exposed to certain economic downturns affecting the insurance industry, in particular the P&C insurance industry. U.S. and global market and economic conditions have been, and continue to be, disrupted and volatile. General business and economic conditions that could affect us and our customers include fluctuations in economic growth, debt and equity capital markets, liquidity of the global financial markets, the availability and cost of credit, investor and consumer confidence, inflation and the strength of the economies in which our customers operate. A poor economic environment has resulted in and could result in further significant decreases in demand for our solutions and professional services, including the delay, reduction in scope or length or cancellation of current or anticipated projects, or could present difficulties in collecting accounts receivables from our customers due to their deteriorating financial condition. Our existing customers may be acquired by or merged into other entities that use our competitors' products, or they may decide to terminate their relationships with us for other reasons. As a result, our sales could decline if an existing customer is merged with or acquired by another company that has a poor economic outlook, or is closed.

Our customers may defer or forego purchases of our solutions or professional services in the event of global events such as weakened global economic conditions, inflationary pressures, international political instability and other events that we may not foresee.

The general worldwide economic downturn and other recent global events (such as inflationary pressures and international political instabilities) have made, and are expected to continue to make, it difficult for our customers and us to forecast and plan future business activities accurately. Prolonged periods of these or other unforeseen uncertainties or downturns have, and may in the future, harm our business operations or financial results. For example, the decision by referendum to withdraw the United Kingdom from the European Union ("Brexit") in June 2016 has resulted in significant volatility in global stock markets and fluctuations in currency exchange rates. More recently, a trade and cooperation agreement was ratified by the European Parliament and the Council of the European Union to govern the United Kingdom's future relationship with the European Union. This agreement addresses trade, economic arrangements, law enforcement, judicial cooperation and a governance framework, among other things. Because the agreement merely sets forth a framework in many respects and will require complex additional bilateral negotiations between the United Kingdom and the European Union, significant political and economic uncertainty remains about how the precise terms of the relationship between the parties will differ from the terms before withdrawal. Brexit may also cause delays in purchasing decisions by our potential and current customers affected by this transition due to the considerable political and economic uncertainty created by Brexit and uncertainty as to the nature of the United Kingdom's long-term relationship with the European Union. Brexit may further result in new regulatory and cost challenges to our United Kingdom and global operations, particularly with respect to data protection. Depending on the market and regulatory effects of Brexit, it is possible that there may be adverse practical or operational implications on our business, and prolonged economic uncertainties or downturns caused by Brexit could harm our business and results of operations.

Further, inflation has risen significantly worldwide and the United States has recently experienced historically high levels of inflation. This inflation and government efforts to combat inflation, such as recent and future significant increases to benchmark interest rates and other related monetary policies, have and could continue to increase market volatility and have an adverse effect on the domestic and international financial markets and general economic conditions. If the inflation rate continues to increase, it could also push up the costs of labor and our employee compensation expenses.

These and other global events, such as global inflation concerns and the ongoing conflict between Russia and Ukraine and other events that we may not foresee, may continue to create global economic, political and regulatory uncertainty in the regions in which we or our customers have significant operations. These conditions have caused and could continue to cause our customers to reevaluate their decision to purchase our solutions and professional services, which could delay and lengthen our sales cycles or result in cancellations of planned purchases. Furthermore, during challenging economic times our customers may face issues in gaining timely access to sufficient credit, which could result in an impairment of their ability to make timely payments to us. If that were to occur, we may not receive amounts owed to us and may be required to record an allowance for doubtful accounts, which would adversely affect our financial results. A substantial downturn in the P&C insurance industry may cause firms to react to worsening conditions by reducing their capital expenditures, reducing their spending on IT, delaying or canceling IT projects, or seek to lower their costs by renegotiating vendor contracts. Negative or worsening conditions in the general economy both in the United States and abroad, including conditions resulting from financial and credit market fluctuations and inflation, could cause a decrease in corporate spending on enterprise software in general, and in the insurance industry specifically, and negatively affect the rate of growth of our business.

In addition, the U.S. Congress could introduce legislation that would result in the increased regulation of the financial and insurance industries, which could reduce the need for our solutions and professional services. An expansion in government's role in the U.S. P&C insurance industry may lower the future revenue for the solutions we are developing and adversely affect our future business, possibly materially. We cannot predict what insurance initiatives, if any, will be implemented at the federal or state level, or the effect any future legislation or regulation will have on us. Any of these events could seriously harm our business, results of operations and financial condition.

Customer staffing and resource allocation challenges, particularly with respect to IT resources, may result in the lengthening of sales cycles and the delay, reduction in scope or cancellation of current or anticipated projects.

In the event that our customers reduce, or limit the growth of, staffing or resource allocation, particularly with respect to IT resources, whether as a result of macroeconomic challenges, inflation or otherwise, our sales cycles could lengthen and current or anticipated projects could be delayed, reduced in scope or length or canceled. As the general worldwide economic outlook remains unstable, customers may increase or revise the levels of approvals required in order to determine to purchase our solutions or professional services, or renew subscription arrangements or license agreements. Any of these events could seriously harm our business, results of operations and financial condition.

Weakening of our customers' businesses could result in reductions or limitations on growth in our revenue.

We generally price our SaaS and license arrangements at individually negotiated rates based on the amount of a customer's DWP that will be managed by our solutions with pre-determined fee adjustments as the customer's DWP increases over the term of the contract. Challenges to customers' business can result in the failure to trigger upward fee adjustments or could result in downward fee adjustments with respect to any such customer. We have adjusted contracts and bought out the remaining subscriptions of customers to address such challenges to customers' businesses and may continue to do so or take similar actions in the future. Any of these events could seriously harm our business, results of operations and financial condition.

Factors outside of our control, including, but not limited to, natural catastrophes, the geopolitical landscape, and terrorism may adversely impact the P&C insurance industry, preventing us from expanding or maintaining our existing customer base and increasing our revenue. Our business is subject to the risks of earthquakes, fire,

floods, and other natural catastrophic events, and to interruption by man-made problems such as computer viruses.

Our customers are P&C insurers that have experienced, and will likely experience in the future, losses from catastrophes or terrorism that may adversely impact their businesses. Catastrophes can be caused by various events, including, without limitation, hurricanes, tsunamis, floods, windstorms, earthquakes, hail, tornadoes, explosions, severe weather, epidemics, pandemics, and fires. Climate change and other environmental factors are contributing to an increase in erratic weather patterns globally and intensifying the impact of certain types of catastrophes. Moreover, acts of terrorism or armed conflict or uncertainty in the geopolitical landscape, including as a result of escalation in the ongoing conflict between Russia and Ukraine, could cause disruptions to our business or our customers' businesses or the economy as a whole. The risks associated with natural catastrophes, the geopolitical landscape, and terrorism are inherently unpredictable, and it is difficult to forecast the timing of such events or estimate the amount of losses they will generate. Recently, for example, various parts of the United States have suffered extensive damage due to hurricanes, droughts, floods, severe heat and cold events, fires, and other natural disasters, Germany and other parts of Europe have experienced flooding, and Australia has experienced extensive damage due to fires and flooding. The combined and expected effect of those losses on carriers is significant. Such losses and losses due to future events may adversely impact our current or potential customers, which may prevent us from maintaining or expanding our customer base and increasing our revenue as such events may cause customers to postpone purchases of new offerings and professional service engagements or to discontinue existing projects. Any of these events could materially harm our business, results of operations and financial condition.

If we are unable to continue the successful development of our direct sales team and the expansion of our relationships with our strategic partners, sales of our solutions, and consequently our professional services, will suffer and our growth would be slower than we project.

We believe that our future growth will depend on the continued recruiting, retention and training of our direct sales team and their ability to obtain new customers and to manage our existing customer base. Our ability to achieve significant growth in revenue in the future will depend, in part, on our success in recruiting, training and retaining a sufficient number of inside sales personnel and solution consultants. New hires require significant training and may, in some cases, take more than a year before becoming productive, if at all. Remote working could further slow the onboarding of direct sales team members. If we are unable to hire and develop a sufficient number of productive members of our sales team, sales of our solutions will suffer. Additionally, a decline in sales of our solutions will directly impact our professional services revenue since a reduction in sales of our SaaS solutions and software license products will reduce the need for implementation services related to such products. Any of these events could impede our growth and materially harm our business, results of operations and financial condition.

We believe our future growth also will depend on the retention and expansion of our partnerships with third-party partners, including leading SIs and best-in-class technology companies, which help to increase the visibility of our products and engage with us in co-marketing efforts. The goal of our partnerships with leading SIs and other third-party partners, including our sales, solution and consulting providers and third-party solution partners is to allow us to grow our business by giving us scale to service our growing customer base. Our growth in revenue, particularly in international markets, will be influenced by the development and maintenance of partnerships which, in some cases, may require the establishment of effective relationships with regional SIs. Although we have established relationships with some of leading SIs, our solutions and professional services may compete directly against solutions and professional services that such leading SIs support or market. Additionally, we are unable to control or predict the effects of ongoing global events (including, without limitation, global inflation and the weakened global economic conditions, international political instability, ongoing COVID-19 pandemic developments and other events that we may not foresee) on our SI partners. If we are not able to retain and expand our relationships with SIs and our other third party-partners, it will have an adverse effect on our business and our results of operations could fail to grow in line with our projections.

If we are unable to retain our personnel and hire and integrate additional skilled personnel, we may be unable to achieve our goals and our business will suffer.

Our future success depends upon our ability to continue to attract, train, integrate and retain highly skilled employees, particularly those on our management team, including Michael Jackowski, our Chief Executive Officer, and our sales and marketing personnel, SaaS operations personnel, professional services personnel and software engineers. Additionally, our stakeholders increasingly expect us to have a culture that embraces diversity and inclusion in the workplace. Our inability to attract and retain diverse and qualified personnel, or delays in hiring required personnel, including delays due to COVID-19, may seriously harm our business, results of operations and financial condition. If U.S. immigration policy related to skilled foreign workers were materially adjusted, such a change could hamper our efforts to hire highly skilled foreign employees, including highly specialized engineers, which would adversely impact our business.

Our executive officers and other key employees are generally employed on an at-will basis, which means that these personnel could terminate their relationship with us at any time. The loss of any member of our senior management team could significantly delay or prevent us from achieving our business and/or development objectives, and could materially harm our business.

We face competition for qualified individuals from numerous software and other technology companies. Further, significant amounts of time and resources are required to train technical, sales, services and other personnel. We may incur significant costs to attract, train and retain such personnel, and we may lose new employees to our competitors or other technology companies before we realize the benefit of our investment after recruiting and training them.

Also, to the extent that we hire personnel from competitors, we may be subject to allegations that such personnel have been improperly solicited or have divulged proprietary or other confidential information. In addition, we have a limited number of salespeople and the loss of several salespeople within a short period of time could have a negative impact on our sales efforts. We may be unable to attract and retain suitably qualified individuals who are capable of meeting our growing technical, operational and managerial requirements, or we may be required to pay increased compensation in order to do so.

Our ability to expand geographically depends, in large part, on our ability to attract, retain and integrate managers to lead the local business and employees with the appropriate skills. Similarly, our profitability depends on our ability to effectively utilize personnel with the right mix of skills and experience to perform services for our customers, including our ability to transition employees to new assignments on a timely basis. If we are unable to effectively deploy our employees globally on a timely basis to fulfill the needs of our customers, our reputation could suffer and our ability to attract new customers may be harmed.

Because of the technical nature of our solutions and the dynamic market in which we compete, any failure to attract, integrate and retain qualified sales, professional services and product development personnel, as well as our contract workers, could harm our ability to generate sales or successfully develop new solutions and professional services and enhancements of existing solutions.

Increases in labor costs, including wages, and an overall tightening of the labor market, could adversely affect our business, results of operations or financial condition.

The labor costs associated with our business are subject to several external factors, including unemployment levels and the quality and the size of the labor market, prevailing wage rates, minimum wage laws, wages and other forms of remuneration and benefits offered to prospective employees by competitor employers, potential collective bargaining arrangements, health insurance costs and other insurance costs and changes in employment and labor legislation or other workplace regulation. Although we are not currently exposed to minimum wage work, we are exposed to related requirements as per the Fair Labor Standards Act regarding exempt versus non-exempt employment. From time to time, the labor market becomes increasingly competitive. For example, the United States is currently experiencing a workforce shortage, which in turn, has created a hyper-competitive wage environment that may increase our operating costs. If we are unable to mitigate wage rate increases driven by increases to the increasingly competitive labor market through automation and other labor savings initiatives, our labor costs may increase. Furthermore, the currently high inflation rates could also push up our labor costs. There is no assurance that our revenues will increase at the same rate as these labor cost increases to maintain the same level of profitability.

In the event we must offer increased wages or other competitive benefits and incentives to attract and retain qualified personnel and fail to do so, the quality of our workforce could decline, causing certain aspects of our business to suffer. Increases in labor costs could force us to increase our prices, which could adversely impact sales. Although we have not experienced any material labor shortage to date, we have observed an overall tightening and increasingly competitive labor market and have recently experienced and expect to continue to experience some labor cost pressures. If we are unable to hire and retain capable employees, manage labor cost pressures, or if mitigating measures we take in response to increased labor costs, have unintended negative effects, including on client service or retention, our business would be adversely affected. If competitive pressures or other factors prevent us from offsetting increased labor costs, our profitability may decline and could have an adverse effect on our business, results of operations or financial condition.

Changes in our product revenue mix and gross margins as we continue to focus on sales of our SaaS solutions will cause fluctuations in our results of operations and cash flows between periods, which may cause our stock price to decline.

Our strategy has been to focus on growth and expansion of our SaaS solutions and, accordingly, our subscription revenue has continued to increase in comparison with our license revenue for our term and perpetual licenses. Our subscription revenue grew 23% from $125.3 million in fiscal 2021 to $153.5 million in fiscal 2022. From fiscal 2020 to fiscal 2021 subscription revenue grew 49% from $84.0 million to $125.3 million.

Our subscription revenue is recognized ratably over the term of the contract, unlike the license revenue from our term and perpetual licenses, which is typically recognized upfront. We expect the portion of our subscription revenue will continue to grow as we continue to focus on driving sales of our SaaS solutions to new customers and existing term and perpetual license customers, as well as to our existing customers with SaaS arrangements who do not utilize the full *Duck Creek Suite*. As a result, our product revenue mix has changed, and will continue to change over time as the portion of upfront license revenue decreases and the portion of ratable subscription revenue increases, which may make our results in any one period difficult to compare to any other period. This change of revenue mix could adversely impact our gross and operating margins. For instance, as we continue to increase our focus on SaaS customers, we expect our overall gross margin percentage to decrease due to our subscription gross margin percentages being lower than our license gross margin percentages.

Additionally, the growth of our business is dependent on winning a relatively small number of higher value contracts, and our quarterly results of operations may be volatile because we cannot control in which quarter, if any, a new contract will be signed in a given year, particularly in the current economic climate. Our revenue may also fluctuate versus comparable prior periods or prior quarters within the same fiscal year based on the terms of the agreements and the timing of new orders executed in the quarter. In addition, as subscription revenue is recognized ratably over the term of the contract, most of the subscription revenue we report in each quarter is the result of SaaS arrangements entered into during previous quarters. Consequently, a decline in new or renewed subscriptions in any one quarter will not be fully reflected in our revenue results for that quarter. Any such decline, however, will negatively affect our revenue in future quarters.

These factors may cause significant fluctuations in our results of operations and cash flows, may make it challenging for an investor to predict our performance and may prevent us from meeting or exceeding the expectations of research analysts or investors, which in turn may cause our stock price to decline.

We have relied and expect to continue to rely on orders from a relatively small number of customers in the P&C insurance industry for a substantial portion of our revenue, and the loss of any of these customers or a reduction in revenue from any of these customers would significantly harm our business, results of operations and financial condition.

Our revenue is dependent on orders from customers in the P&C insurance industry and a relatively small number of customers have historically accounted for a significant portion of our revenue. We have over 150 insurance customers. We had no single customer that accounted for over 10% of our total revenue in fiscal 2022 or 2021. We also assess customer concentration by combining customers that are under common control and considering them as one entity. On this basis we had no consolidated entities that represented more than 10% of our total revenue in fiscal 2022 or 2021. However, as of August 31, 2022, one customer accounted for greater than 13% of accounts receivable, and as of August 31, 2021, one customer accounted for approximately 11% of accounts receivable. No other customer individually accounted for more than 10% of the Company's accounts receivable for these reporting periods. We expect that we will continue to depend upon a relatively small number of customers for a significant portion of our revenue for the foreseeable future. As a result, our revenue could be significantly impacted by any negative changes in the buying behavior of our larger customers. If we fail to successfully sell our solutions and professional services to one or more of these anticipated customers in any particular period or fail to identify additional potential customers or such customers purchase fewer of our solutions or professional services, defer or cancel orders, fail to renew their subscription arrangements or license agreements or otherwise terminate their relationship with us, our business, results of operations and financial condition would be harmed. Additionally, if our sales to one or more of these anticipated customers in any particular period is for SaaS arrangements or maintenance and support and are ratable in nature, or if we fail to achieve the required performance criteria or service levels for one or more of these relatively small number of customers, our quarterly and annual results of operations may fluctuate significantly. Some of our SaaS arrangements and license agreements with our customers can be canceled and not renewed by the customer after the expiration of the SaaS or license term, as applicable, on relatively short notice. Moreover, one of our SaaS customers has a right to terminate its contract with us at its discretion by providing notice and paying a termination fee based on a proportion of the remaining SaaS fees otherwise payable by that customer for the balance of the committed term of its contract, while one of our other SaaS customers has a right to terminate its contract with us at its discretion only during the first year of the committed term of its contract by providing notice and paying a termination fee equal to the SaaS fees otherwise payable by that customer for the balance of the first year of the committed term of its contract. In addition, consolidation in the insurance another SaaS customer has the ability to elect during the last year of the committed term of its contract to discontinue its access to certain SaaS capabilities made available to it under such contract by providing notice and receiving up to an approximately 7% reduction in annual SaaS fees that would have otherwise been payable by that customer during the last year of the committed term of its contract. The loss of business from any of our significant customers, including from cancellations, could seriously harm our business, results of operations and financial condition.

Our large customers have substantial negotiating leverage, which may require that we agree to terms and conditions that result in increased cost of sales, decreased revenue and lower average selling prices and gross margin percentages, all of which would harm our results of operations.

Some of our customers include the world's largest carriers. These customers have significant bargaining power when negotiating new SaaS arrangements or term licenses, or renewals of existing agreements, and have the ability to buy similar solutions from other vendors or develop such systems internally. These customers have and may continue to seek advantageous pricing and other commercial terms and may require us to develop additional features in the solutions we sell to them. We have been required to, and may continue to be required to, reduce the average selling price of our solutions in response to these pressures, resulting in lower contract values in recent periods. These customers may also require us to implement their purchased products on an expedited basis. If we are unable to implement our products to our customer's satisfaction or avoid reducing our average selling prices and gross margin percentages, our results of operations would be harmed.

There may be consolidation in the insurance industry, which could reduce the use of our products and services and adversely affect our revenues.

Mergers or consolidations among our customers could reduce the number of our customers and potential customers. This could adversely affect our revenues even if these events do not reduce the aggregate number of customers or the activities of the consolidated entities. If our customers merge with or are acquired by other entities that are not our customers, or that use fewer of our products and services, they may discontinue or reduce their use of our products and services. Any of these developments could materially and adversely affect our business, results of operations and financial condition.

Our business depends on customers renewing and expanding their SaaS arrangements, term licenses or maintenance and support arrangements for our solutions. A decline in our customer renewals and expansions could harm our future results of operations.

Our customers have no obligation to renew their SaaS arrangements, term licenses or maintenance and support arrangements after they expire, and these arrangements or licenses may not be renewed on the same or more favorable terms. Moreover, one of our SaaS customers has a right to terminate its contract with us at its discretion by providing notice and paying a termination fee based on a proportion of the remaining SaaS fees otherwise payable by that customer for the balance of the committed term of its contract, while one of our other SaaS customers has a right to terminate its contract with us at its discretion only during the first year of the committed term of its contract by providing notice and paying a termination fee equal to the SaaS fees otherwise payable by that customer for the balance of the first year of the committed term of its contract. In addition, another SaaS customer has the ability to elect during the last year of the committed term of its contract to discontinue its access to certain SaaS capabilities made available to it under such contract by providing notice and receiving up to an approximately 7% reduction in annual SaaS service fees that would have otherwise been payable by that customer during the last year of the committed term of its contract. We have limited historical data with respect to rates of customer renewals, upgrades and expansions of our SaaS solutions, so we may not accurately predict future trends in customer renewals. In addition, our term and perpetual license customers have no obligation to renew their maintenance and support arrangements after the expiration of the initial contractual period, which has historically been for three to six years, and more recently has been reduced to two years. Our customers' renewal rates may fluctuate or decline because of several factors, including their satisfaction or dissatisfaction with our solutions and professional services, the prices of our solutions and professional services, the prices of solutions and professional services offered by our competitors or reductions in our customers' spending levels due to the macroeconomic environment (including,

without limitation, the ongoing global economic downturn, inflationary pressures and political instabilities) or other factors. If our customers do not renew their SaaS arrangements or term licenses for our solutions or renew on less favorable terms, our revenue may decline or grow more slowly than expected and our profitability will be harmed.

Our growth strategy is focused on continuing to develop our SaaS solutions, which has, and may continue to increase our costs. In addition, if we are unable to successfully grow our SaaS business or navigate our growth strategy, our reputation, results of operations and growth expectations could be significantly harmed.

To address demand trends in the P&C insurance industry, we have focused on and plan to continue focusing on the growth and expansion of our SaaS business. This growth strategy has required and will continue to require a considerable investment of technical, financial and sales resources. We have no assurance that such investments will result in an increase in subscription revenue or that we will be able to scale such investments efficiently, or at all, to meet customer demand and expectations. Our focus on our SaaS business has, and may continue to increase our costs, such as the cost of public infrastructure, in any given period and may be difficult to predict over time. Further, we have experienced and may continue to experience reduced term or perpetual license revenue as we increasingly focus on our SaaS business.

Our SaaS arrangements also contain service level agreement clauses, for matters such as failing to meet stipulated service levels. Should these penalties be triggered, our results of operations may be adversely affected. Furthermore, we may assume greater responsibilities for implementation related services as we continue to focus on our SaaS business. As a result, we may face risks associated with new and complex implementations, the cost of which may differ from original estimates. The consequences in such circumstances could include: monetary credits for current or future service engagements, reduced fees for additional product sales, cancellations of planned purchases and a customer's refusal to pay their contractually-obligated SaaS or professional service fees. Any factor adversely affecting sales of our SaaS solutions, including application release cycles, delays or failures in new product functionality, market acceptance, product competition, performance and reliability, reputation, price competition and economic and market conditions, would have a material adverse effect on our business, financial condition and results of operations. Additionally, the entry into new markets or the introduction of new features, functionality or applications beyond our current markets and functionality may not be successful. If we are unable to successfully grow our SaaS business and navigate our growth strategy in light of the foregoing uncertainties, our reputation could suffer and our results of operations would be harmed, which may cause our stock price to decline.

Failure to manage our expanding operations effectively could harm our business.

We have expanded our operations and expect to continue to do so, including the number of employees and the locations and scope of our operations. Additionally, the COVID-19 pandemic and changing workforce dynamics have resulted in our employees and contractors working from home, bringing new challenges to managing our business and work force, which we generally expect to continue for the foreseeable future. This expansion and changing work environment has placed, and will continue to place, a significant strain on our operational resources and our personnel. We will also need to identify, add and retain additional qualified personnel across our operations. To manage our anticipated future operational expansion effectively, we must continue to maintain and expect to enhance our IT infrastructure, financial and accounting systems and controls and manage expanded operations and employees in geographically distributed locations. Our growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of new solutions. If we increase the size of our organization without experiencing an increase in sales of our solutions, we will experience reductions in our gross and operating margins and net income. We may also deem it advisable in the near-term or later to downsize certain of our offices in order to reduce costs, which may cause us to incur related charges. If we are unable to effectively manage our expanding operations or manage the increase in remote employees, our expenses may increase more than expected, our revenue could decline or grow more slowly than expected and we may be unable to implement our business strategy.

If we are unable to develop or sell our solutions into new markets, attract new customers in existing markets, or expand existing customer relationships, our revenue will not grow as expected.

Our ability to increase revenue will depend, in large part, on our ability to further attract new customers in our existing markets and in new markets, as well as our ability to transition our existing term and perpetual license customers to our SaaS solutions and to increase sales from existing customers who do not utilize the full Duck Creek Suite. Our ability to further penetrate our existing markets depends on the quality of our solutions and our ability to design our solutions to meet changing consumer demands and industry standards, as well as our ability to assure that our customers will be satisfied with our existing and new solutions. The success of any enhancement or new solution or service depends on several factors, including the timely completion, introduction and market acceptance of enhanced or new solutions, adaptation to new industry standards and technological changes, the ability to maintain and to develop relationships with third parties and the ability to attract, retain and effectively train sales and marketing personnel. Any new solutions we develop or acquire may not be introduced in a timely or cost-effective manner and may not achieve the market acceptance necessary to generate significant revenue. Any new industry standards or practices that emerge, or any introduction by competitors of new solutions embodying new services or technologies, may cause our solutions to become obsolete. Any new markets in which we attempt to sell our solutions, including new countries or regions, may not be receptive or implementation may be delayed due to COVID-19. Additionally, any expansion into new markets will require commensurate ongoing expansion of our monitoring of local laws and regulations, which increases our costs as well as the risk of the solution not incorporating in a timely fashion or at all due to a failure of the solution to comply with such local laws or regulations. If we are unable to sell our solutions into new markets or to further penetrate existing markets, or to increase sales from existing customers by selling them additional software and services, our revenue will not grow as expected, which would have a material adverse effect on our business, financial condition and results of operations.

Failure of any of our established solutions to satisfy customer demands or to maintain market acceptance would harm our business, results of operations, financial condition and growth prospects.

We derive a significant majority of our revenue and cash flows from our established solutions, including *Duck Creek Policy*, *Duck Creek Rating*, *Duck Creek Billing* and *Duck Creek Claims*. We expect to continue to derive a substantial portion of our revenue from these sources. As such, continued market acceptance of these solutions is critical to our growth and success. Demand for our solutions is affected by a number of factors, some of which are beyond our control, including the successful implementation of our solutions, the timing of development and release of new solutions by us and our competitors, technological advances which reduce the appeal of our solutions, changes in regulations that our customers must comply with in the jurisdictions in which they operate and the growth or contraction in the worldwide market for technological solutions for the P&C insurance industry. If we are unable to continue to meet customer demands, to achieve and maintain a technological advantage over competitors, or to maintain market acceptance of our solutions, our business, results of operations, financial condition and growth prospects would be adversely affected.

If the market for enterprise cloud computing, including SaaS solutions, develops slower than we expect or declines, it could have a material adverse effect on our business, financial condition and results of operations.

While the market for cloud computing, including SaaS solutions, for the P&C insurance industry is growing, it is not as mature as the market for legacy on-premise applications. It is uncertain whether cloud computing, including SaaS solutions, will achieve and sustain high levels of customer demand and market acceptance, particularly in our industry. Our success substantially depends on the adoption of cloud computing and SaaS solutions in the P&C insurance industry, which may be affected by, among other things, the widespread acceptance of cloud computing and SaaS solutions in other industries and in general. Market acceptance of our SaaS solutions may be affected by a variety of factors, including but not limited to: price, security, reliability, performance, customer preference, public concerns regarding privacy and the enactment of restrictive laws or regulations. Many carriers have invested substantial personnel and financial resources to integrate traditional enterprise software into their businesses and therefore may be reluctant or unwilling to migrate to cloud computing. It is difficult to predict customer adoption rates and demand for our SaaS solutions, the future growth rate and size of the cloud computing market or the entry of other competitive applications. As our business practices in this area continue to develop and evolve over time, we may be required to revise the SaaS solutions we have developed, which may result in revised terms and conditions that impact how we recognize revenue and the costs and risks associated with these offerings. Whether our product development efforts or focus on SaaS solutions will prove successful and accomplish our business objectives is subject to numerous uncertainties and risks, including but not limited to, customer demand, our ability to further develop and scale infrastructure, our ability to include functionality and usability in such offerings that address customer requirements, tax and accounting implications and our costs. If we or other providers of cloud-based computing in general, and in the P&C insurance industry in particular, experience security incidents, loss of customer data, disruptions in delivery or other problems, the market for cloud computing applications as a whole, including our SaaS solutions, may be negatively affected. If cloud computing does not achieve widespread adoption or there is a reduction in demand for cloud computing caused by a lack of customer acceptance, technological challenges, weakening economic conditions, security or privacy concerns, competing technologies and solutions, reductions in corporate spending or otherwise, it could have a material adverse effect on our business, financial condition, and results of operations.

We may not be able to obtain capital when desired on favorable terms, if at all, and we may not be able to obtain capital or complete acquisitions through the use of equity without dilution to our stockholders.

We may need additional financing to execute on our current or future business strategies, including to develop new or enhance existing solutions, acquire businesses and technologies or otherwise respond to competitive pressures. Our ability to raise capital in the future may be limited, and if we fail to raise capital when needed, we could be prevented from growing and executing our business strategy.

If we raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of our stockholders could be significantly diluted, and newly-issued securities may have rights, preferences or privileges senior to those of existing stockholders. If we accumulate additional funds through debt financing, 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. We cannot assure stockholders that additional financing will be available on terms favorable to us, or at all. If adequate funds are not available or are not available on acceptable terms, when we desire them, our ability to fund our operations, take advantage of unanticipated opportunities, develop or enhance our solutions, invest in future growth opportunities or otherwise respond to competitive pressures would be significantly limited. Any of these factors could harm our business, results of operations and financial condition.

Increases in professional services revenue as a percentage of total revenue or lower professional services margin percentages could adversely affect our overall gross margins and profitability.

Our professional services revenue was 35%, 38%, and 44% of total revenue for fiscal 2022, 2021 and 2020, respectively. Our professional services revenue produces lower gross margin percentages than our subscription revenue and license revenue. The gross margin percentages of our professional services revenue were 40%, 42%, and 39% for fiscal 2022, 2021 and 2020, respectively. The gross margin percentages for license revenue were 92%, 84%, and 81% for fiscal 2022, 2021 and 2020, respectively. The gross margin percentages for subscription revenue were 61%, 62% and 58% for each of fiscal 2022, 2021 and 2020, respectively. We expect our professional services revenue to grow over time in absolute dollars due to customer growth and an increasing need for implementation services but decrease as a percentage of total revenue. Any increase in the percentage of total revenue represented by professional services revenue would reduce our overall gross margins and operating margins. Such a trend can be the result of several factors, some of which may be beyond our control, including increased customer demand for our professional service team’s involvement in new solutions, the rates we charge for our professional services, our ability to bill our customers for all time incurred to complete a project, and the extent to which SI partners are willing and able to provide services directly to customers. Erosion in our professional services margin percentages would also adversely affect our gross and operating margin percentages. Professional services margin percentages may erode for a period of time as we work to grow our business and overall revenue; for instance, professional services margin percentages may erode if we hire and train additional professional services personnel to support new solutions, if we require additional professional service personnel to support entry into new markets, or if we require additional personnel on unexpectedly difficult projects to ensure customer success, perhaps without commensurate compensation due to the terms of the arrangement.

Professional services margins may also decline if we are required to defer professional services revenue in connection with an engagement. This may happen for a number of reasons, including if there is a specific product deliverable associated with a broader professional services engagement. In these situations, we would defer only the direct costs associated with the engagement, although other indirect costs could be recognized. Deferring all revenue but only direct costs will reduce margins. Lower professional services margins could adversely affect our overall gross margins and profitability.

Real or perceived errors or failures in our solutions or implementation services may affect our reputation, cause us to lose customers and reduce sales which may harm our business and results of operations and subject us to liability for breach of warranty claims.

Because we offer solutions that operate in complex environments, undetected errors or failures may exist or occur, especially when solutions are first introduced or when new versions are released, implemented or integrated into other systems. Our solutions are often installed and used in large-scale computing environments with different operating systems, system management software and equipment and networking configurations, which may cause errors or failures in our solutions or may expose undetected errors, failures or bugs in our solutions. Despite testing by us, we may not identify all errors, failures or bugs in new solutions or releases until after commencement of commercial sales or installation. In the past, we have discovered errors, failures and bugs in some of our solutions after their introduction. We may not be able to fix errors, failures and bugs without incurring significant costs or an adverse impact to our business. We believe that our reputation and name recognition are critical factors in our ability to compete and generate additional sales. Promotion and enhancement of our name will depend largely on our success in continuing to provide effective solutions and services. The occurrence of errors in our solutions or the detection of bugs by our customers may damage our reputation in the market and our relationships with our existing customers, and as a result, we may be unable to attract or retain customers. Any of these events may result in the loss of, or delay in, market acceptance of our solutions and services, which could seriously harm our sales, results of operations and financial condition.

The license and support of our software creates the risk of significant liability claims against us. Our SaaS arrangements and term and perpetual licenses with our customers contain provisions designed to limit our exposure to potential liability claims. It is possible, however, that the limitation of liability provisions contained in such agreements may not be enforced as a result of international, federal, state and local laws or ordinances or unfavorable judicial decisions. Breach of warranty or damage liability, or injunctive relief resulting from such claims, could harm our results of operations and financial condition.

Our sales and implementation cycles are lengthy and variable, depend upon factors outside our control, and could cause us to expend significant time and resources prior to generating revenue.

The typical sales cycle for our solutions is lengthy and unpredictable, requires pre-purchase evaluation by a significant number of employees in our customers' organizations, and often involves a significant operational decision by our customers. While sales cycles can vary and such differences can be material, the typical buying process for a customer purchasing core system software takes approximately twelve to fifteen months, and such cycles may be extended in the current economic climate. Our sales efforts involve educating our customers about the use and benefits of our solutions, including the technical capabilities of our solutions and the potential cost savings achievable by organizations using our solutions. Potential customers typically undertake a rigorous pre-purchase decision-making and evaluation process, and sales to new customers involve extensive customer due diligence and reference checks. We invest a substantial amount of time and resources on our sales efforts without any assurance that our efforts will produce sales. Even if we succeed at completing a sale, we may be unable to predict the size of an initial SaaS arrangement or term or perpetual license until very late in the sales cycle. In addition, we sometimes commit to include specific functions in our base product offering at the request of a customer or group of customers and are unable to recognize subscription or license revenue until the specific functions have been added to our solutions. Providing this additional functionality may be time consuming and may involve factors that are outside of our control. Customers may also insist that we commit to certain time frames in which systems built around our solutions will be operational, or that once implemented our solutions will be able to meet certain operational requirements. Our ability to meet such timeframes and requirements may involve factors that are outside of our control, and failure to meet such timeframes and requirements could result in us incurring penalties, costs and/or additional resource commitments, which would adversely affect our business, results of operations and results of operations.

Unexpected delays and difficulties can occur as customers implement and test our solutions. Implementing our solutions typically involves integration with our customers' and third-party's systems, as well as adding customer and third-party data to our platform. This can be complex, time consuming and expensive for our customers and can result in delays in the implementation of our solutions. We also provide our customers with upfront estimates regarding the duration, resources and costs associated with the implementation of our solutions. Failure to meet these upfront estimates and the expectations of our customers for the implementation of our solutions (whether or not due to any fault on our part) could result in costly disputes with, and ultimately loss of, customers and negative publicity about us and our solutions and professional services. Such failure could result from deficiencies in our solution capabilities or inadequate professional service engagements performed by us, our SI partners or our customers' employees, the latter two of which are beyond our direct control. Time-consuming implementations may also increase the amount of services personnel we must allocate to each customer, thereby increasing our costs and consequently the cost to our customers and adversely affecting our business, results of operations and financial condition.

Our business is subject to seasonal fluctuations that may cause our results of operations to vary from period to period.

Our business is subject to seasonal fluctuations that may cause our results of operations to vary from period to period and may be reflected in our revenue, gross margin, SaaS ARR growth and other financial measures. Many of the factors that contribute to seasonal fluctuations in our results of operations are out of our control. We have experienced, and expect that we will continue to experience, seasonality in the number of orders placed and when we enter into subscription agreements with customers. Historically, our bookings have tended to be greatest in the second and fourth fiscal quarters of the year. Seasonality in our business may cause period-to-period fluctuations in certain of our operating results and financial metrics and thus limit our ability to predict our future results.

If we are unable to develop, introduce and market new and enhanced versions of our solutions, we may be put at a competitive disadvantage and our operating results could be adversely affected.

Our ability to attract new customers and increase revenue from our existing customers depends, in part, on our continued ability to enhance the functionality of our existing solutions by developing, introducing and marketing new and enhanced versions of our solutions that address the evolving needs of our customers and changing industry standards in both our existing markets and new markets. Because some of our solutions are complex and require rigorous testing, development cycles can be lengthy and can require months or even years of development, depending upon the solution and other factors. As we expand internationally, our products and services must be modified and adapted to comply with regulations and other requirements of the countries in which our customers do business.

Additionally, market conditions, including heightened pressure on carriers from end-users relating to mobile computing devices and speed of delivery, may dictate that we change the technology platform underlying our existing solutions or that new solutions be developed on different technology platforms, potentially adding material time and expense to our development cycles. The nature of these development cycles may cause us to experience delays between the time we incur expenses associated with research and development and the time we generate revenue, if any, from such expenses.

If we fail to develop new solutions or enhancements to our existing solutions, our business could be adversely affected, especially if our competitors are able to introduce solutions with enhanced functionality. It is critical to our success for us to anticipate changes in technology, industry standards and customer requirements and to successfully introduce new, enhanced and competitive solutions to meet our customers' and prospective customers' needs on a timely basis. We have invested and intend to continue to make significant investments in research and development to meet these challenges. Our estimates of research and development expenses may be too low, revenue may not be sufficient to support the future product development that is required for us to remain competitive and development cycles may be longer than anticipated. Further, there is no assurance that research and development expenditures will lead to successful solutions or enhancements to our existing solutions. Furthermore, maintaining adequate research and development personnel and resources to meet the demands of the market is essential. If we experience high turnover of our product and development personnel, a lack of management ability to guide our research and development, or a lack of other research and development resources, we may miss or fail to execute on new product development and strategic opportunities.

Overall, if we fail to develop solutions in a timely manner that are competitive in technology and price or develop solutions that fail to meet customer demands, our market share will decline and our business and results of operations would be harmed.

We expect to continue to expand through acquisitions or partnerships with other companies, which may divert our management's attention and result in unexpected operating and technology integration difficulties, increased costs and dilution to our stockholders.

We expect to continue to grow, in part, by making targeted acquisitions. For example, we recently completed the acquisition of Prima XL, a France-based commercial reinsurance technology provider. Our business strategy includes the potential acquisition of shares or assets of companies with software, technologies or businesses complementary to ours, both domestically and globally. Our strategy also includes alliances with such companies. We have consummated several acquisitions over the past four years that were initially dilutive to earnings. Acquisitions and alliances may result in unforeseen operating difficulties and expenditures and may not result in the benefits anticipated by such corporate activity.

In particular, we may fail to assimilate or integrate the businesses, technologies, services, products, personnel or operations of the acquired companies, retain key personnel necessary to favorably execute the combined companies' business plan, or retain existing customers or sell acquired products to new customers. Additionally, the assumptions we use to evaluate acquisition opportunities may not prove to be accurate, and intended benefits may not be realized. Our due diligence investigations may fail to identify all of the problems, liabilities or other challenges associated with an acquired business which could result in increased risk of unanticipated or unknown issues or liabilities, including with respect to environmental, competition and other regulatory matters, and our mitigation strategies for such risks that are identified may not be effective. As a result, we may not achieve some or any of the benefits, including anticipated synergies or accretion to earnings, that we expect to achieve in connection with our acquisitions, or we may not accurately anticipate the fixed and other costs associated with such acquisitions, or the business may not achieve the performance we anticipated, which may materially adversely affect our business, prospects, financial condition, results of operations, cash flows, as well as our stock price. Further, if we fail to achieve the expected synergies from our acquisitions and alliances, we may experience impairment charges with respect to goodwill, intangible assets or other items, particularly if business performance declines or expected growth is not realized. Any future impairment of our goodwill or other intangible assets could have an adverse effect on our financial condition and results of operations.

Acquisitions and alliances may also disrupt our ongoing business, divert our resources and require significant management attention that would otherwise be available for ongoing development of our current business. In addition, we may be required to make additional capital investments or undertake remediation efforts to ensure the success of our acquisitions, which may reduce the benefits of such acquisitions. We also may be required to use a substantial amount of our cash or issue debt or equity securities to complete an acquisition or realize the potential of an alliance, which could deplete our cash reserves and/or dilute our existing stockholders. Following an acquisition or the establishment of an alliance offering new solutions, we may be required to defer the recognition of revenue that we receive from the sale of solutions that we acquired or that result from the alliance, or from the sale of a bundle of solutions that includes such new solutions. In addition, our ability to maintain favorable pricing of new solutions may be challenging if we bundle such solutions with sales of existing solutions. A delay in the recognition of revenue from sales of acquired or alliance solutions, or reduced pricing due to bundled sales, may cause fluctuations in our quarterly financial results, may adversely affect our operating margins and may reduce the benefits of such acquisitions or alliances.

Additionally, competition within the software industry for acquisitions of businesses, technologies and assets has been, and is expected to continue to be, intense. As such, even if we are able to identify an acquisition that we would like to pursue, the target may be acquired by another strategic buyer or financial buyer such as a private equity firm, or we may otherwise not be able to complete the acquisition on commercially reasonable terms, if at all. Moreover, in addition to our failure to realize the anticipated benefits of any acquisition, including our revenue or return on investment assumptions, we may be exposed to unknown liabilities or impairment charges as a result of acquisitions we do complete.

We may not receive significant revenue from our current research and development efforts for several months or years, if at all.

Developing software is expensive, and the investment in product development may involve a long payback cycle. Our research and development expenses were $55.4 million, or 18% of our total revenue in fiscal 2022, $48.5 million, or 19% of our total revenue in fiscal 2021, and $44.1 million, or 21% of our total revenue in fiscal 2020. Costs incurred in the preliminary design and development stages of our projects are generally expensed as incurred. Once a project has reached the application development stage, certain internal, external, direct and indirect costs may be subject to capitalization. Generally, costs are capitalized until the technology is available for its intended use. Subsequent costs incurred for the development of future upgrades and enhancements, which are expected to result in additional functionality, follow the same protocol for capitalization. Our future plans include significant investments to develop, improve and expand the functionality of our solutions. We believe that we must continue to dedicate a significant amount of resources to our research and development efforts to maintain our competitive position. However, we may not recognize significant revenue from these investments for several months or years, if at all.

Our international sales and operations subject us to additional risks that can adversely affect our business, results of operations and financial condition.

We sell our solutions and professional services to customers located outside the United States, and we are continuing to expand our international operations as part of our growth strategy. In fiscal 2022, 2021 and 2020, 8%, 8%, and 5% of our revenue, respectively, was derived from outside of the United States. Revenue by geography is determined based on the country in which a customer contract is executed. Some of our contracts allow for usage of our solutions in multiple countries. Our current international operations and our plans to expand our international operations subject us to a variety of risks, including:

- increased management, travel, infrastructure and legal compliance costs associated with having multiple international operations;
- unique terms and conditions in contract negotiations imposed by customers in foreign countries;
- longer payment cycles and difficulties in enforcing contracts and collecting accounts receivable;
- the need to localize our licensing and SaaS solutions for international customers;
- a slower pace of adoption of enterprise cloud computing, including SaaS solutions, in non-U.S. markets;
- lack of familiarity with and unexpected changes in foreign regulatory requirements;
- increased exposure to fluctuations in currency exchange rates;
- highly inflationary international economies;
- the burdens and costs of complying with a wide variety of foreign laws and legal standards, including the General Data Protection Regulation (“GDPR”) in the European Union;
- compliance with the U.S. Foreign Corrupt Practices Act of 1977, as amended, the U.K. Bribery Act and other anti-corruption regulations, particularly in emerging market countries;
- compliance by international staff with accounting practices generally accepted in the United States, including adherence to our accounting policies and internal controls;
- import and export license requirements, tariffs, trade agreements, taxes and other trade barriers;

- increased financial accounting and reporting burdens and complexities;
- weaker protection of intellectual property rights in some countries;
- multiple and possibly overlapping tax regimes;
- the application of the respective local laws and regulations to our business in each of the jurisdictions in which we operate;
- government sanctions that may interfere with our ability to sell into particular countries;
- disruption to our operations caused by epidemics or pandemics, such as COVID-19; and
- political, social and economic instability abroad, terrorist attacks and security concerns in general.

As we continue to expand our business globally, our success will depend, in large part, on our ability to anticipate and effectively manage these and other risks associated with our international operations. Any of these risks could harm our international operations and reduce our international sales, adversely affecting our business, results of operations, financial condition and growth prospects.

Our ability to sell our solutions is dependent on the quality of our professional services and technical support services and the support of our SIs, and the failure of us or our SIs to offer high-quality professional services or technical support services could damage our reputation and adversely affect our ability to sell our solutions and professional services to new customers and renew agreements with our existing customers.

Our revenue and profitability depend on the reliability and performance of our professional services. If our professional services are unavailable, or customers are dissatisfied with our performance, we could lose customers, our revenue and profitability would decrease and our business operations or financial position could be harmed. In addition, the software and workflow processes that underlie our ability to deliver our professional services have been developed primarily by our own employees and consultants. Malfunctions in the software we use or human error could result in our inability to provide professional services or cause unforeseen technical problems. If we incur significant financial commitments to our customers in connection with our failure to meet professional service level commitment obligations, we may incur significant liability and our liability insurance and revenue reserves may not be adequate. In addition, any loss of services, equipment damage or inability to meet our professional service level commitment obligations could reduce the confidence of our customers and could consequently impair our ability to obtain and retain customers, which would adversely affect both our ability to generate revenue and our operating results.

If we or our SIs do not effectively assist our customers in implementing our solutions, succeed in helping our customers quickly resolve post-implementation issues, and provide effective ongoing support, our ability to sell additional solutions and professional services to existing customers would be adversely affected and our reputation with potential customers could be damaged. Since we believe that the implementation experience is vital to retaining customers, our SIs' and our ability to provide predictable delivery results and product expertise is critical to our ability to renew agreements with our existing customers. We are unable to control the quantity or quality of resources that our SIs commit to implementing our solutions, or the quality or timeliness of such implementation. If our SIs do not commit sufficient or qualified resources to these activities, our customers will be less satisfied, be less supportive with references, or may require the investment of our resources at discounted rates.

Once our solutions are implemented and integrated with our customers' existing IT investments and data, our customers may depend on our technical support services and/or the support of SIs to resolve any issues relating to our solutions. High-quality support is critical for the continued successful marketing and sale of our solutions and renewal of contracts. In addition, as we continue to expand our operations internationally, our support organization will face additional challenges, including those associated with delivering support, training and documentation in languages other than English. Many enterprise customers require higher levels of support than smaller customers. If we fail to meet the requirements of our larger customers, it may be more difficult to sell additional solutions and professional services to these customers, a key group for the growth of our revenue and profitability. In addition, as we further expand our SaaS solutions, our professional services and support organization will face new challenges, including hiring, training and integrating a large number of new professional services personnel with experience in delivering high-quality support for our SaaS solutions. Alleviating any of these problems could require significant expenditures which could adversely affect our results of operations and growth prospects. Further, as we continue to rely on our SIs to provide implementation and on-going services, our ability to ensure a high level of quality in addressing customer issues will be diminished. Our failure to maintain high-quality implementation and support services, or to ensure that our SIs provide the same, could have a material adverse effect on our business, results of operations, financial condition and growth prospects.

If we fail to identify, attract and retain additional qualified personnel with experience in designing, developing and managing cloud-based software, as well as personnel who can successfully implement our solutions, we may be unable to grow our SaaS business as expected.

To execute our business strategy and continue to grow our SaaS business, we must identify, attract and retain highly qualified personnel. We compete with many other companies for a limited number of software developers with specialized experience in designing, developing and managing cloud-based software, as well as for skilled developers, engineers and information technology and operations professionals who can successfully implement and deliver our solutions. Many of the companies with which we compete for experienced personnel have greater resources than we have. As we continue to focus on growing our SaaS business, we may experience difficulty in finding, hiring and retaining highly skilled employees with appropriate qualifications which may, among other things, impede our ability to grow our SaaS business. If we are not successful in finding, attracting and retaining the professionals we need, we may be unable to execute our business strategy, including by managing employees and contractors remotely, which could have a material adverse effect on our results of operations, financial condition and growth prospects.

Incorrect or improper use of our solutions or our failure to properly train customers on how to utilize our solutions could result in customer dissatisfaction and negatively affect our business, results of operations, financial condition and growth prospects.

Our solutions are complex and are used in a wide variety of network environments. The proper use of our solutions requires training of the customer. If our solutions are not used correctly or as intended, inadequate performance may result. Our solutions may also be intentionally misused or abused by customers or their employees or third parties who are able to access or use our solutions. Because our customers rely on our solutions, services and maintenance support to manage a wide range of operations, the incorrect or improper use of our solutions, our failure to properly train customers on how to efficiently and effectively use our solutions, or our failure to properly provide maintenance services to our customers may result in negative publicity or legal claims against us. Also, as we continue to expand our customer base, any failure by us to properly provide these services will likely result in lost opportunities for follow-on sales of our solutions.

In addition, if there is substantial turnover of customer personnel responsible for use of our solutions, or if customer personnel are not well trained in the use of our solutions, customers may defer the implementation of our solutions, may use them in a more limited manner than originally anticipated or may not use them at all. Further, if there is substantial turnover of the customer personnel responsible for use of our solutions, our ability to make additional sales may be substantially limited.

We may experience fluctuations in foreign currency exchange rates that could adversely impact our results of operations.

Our international sales are generally denominated in foreign currencies, and this revenue could be materially affected by currency fluctuations. The volatility of exchange rates depends on many factors that we cannot forecast with reliable accuracy. Although we believe our operating activities act as a natural hedge for a substantial portion of our foreign currency exposure at the cash flow or operating income level because we typically collect revenue and incur costs in the currency of the location in which we provide our solutions and services, our contracts with our customers are long-term in nature so it is difficult to predict if our operating activities will provide a natural hedge in the future. In addition, as we enter into license agreements, which have historically been characterized by large annual payments, significant fluctuations in foreign currency exchange rates that coincide with annual payments may affect our revenue or financial results in such quarter. Our results of operations may also be impacted by transaction gains or losses related to revaluing certain current asset and liability balances that are denominated in currencies other than the functional currency of the entities in which they are recorded. Moreover, significant and unforeseen changes in foreign currency exchange rates may cause us to fail to achieve our stated projections for revenue and operating income, which could have an adverse effect on our stock price. We will continue to experience fluctuations in foreign currency exchange rates, which, if material, may harm our revenue or results of operations.

Failure of our commercial liability insurance policy to cover claims and any changes to the availability or coverage amounts in our existing policy could have a material adverse effect on our business, financial condition, and results of operations.

We cannot assure you that our existing general liability insurance coverage and coverage for errors and omissions in our products will be fully covered by our existing policies and will continue to be available on acceptable terms, or will be available in sufficient amounts to cover one or more large claims, or that the insurer will not deny coverage as to any future claim. The successful assertion of one or more large claims against us that exceeds available insurance coverage, or the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, financial condition, and results of operations.

Risks Related to Intellectual Property, Information Technology and Data Security

Assertions by third parties of infringement or other violation by us of their intellectual property rights could result in significant costs and substantially harm our business and results of operations.

The software industry is characterized by the existence of a large number of patents and frequent claims and related litigation regarding patents and other intellectual property rights. In particular, leading companies in the software industry own large numbers of patents, copyrights, trademarks and trade secrets, which they may use to assert claims against us. From time to time, third parties holding such intellectual property rights, including leading companies, competitors, patent holding companies and/or non-practicing entities, may assert patent, copyright, trademark or other intellectual property claims against us, our customers and partners, and those from whom we license technology and intellectual property.

Although we believe that our solutions do not infringe upon the intellectual property rights of third parties, we cannot assure that third parties will not assert infringement or misappropriation claims against us with respect to current or future solutions, or that any such assertions will not require us to enter into royalty arrangements or result in costly litigation, or result in us being unable to use certain intellectual property. Infringement assertions from third parties may involve patent holding companies or other patent owners who have no relevant product revenue, and therefore our own issued and pending patents may provide little or no deterrence to these patent owners in bringing intellectual property rights claims against us.

If we are forced to defend against any infringement or misappropriation claims, whether they are with or without merit, are settled out of court, or are determined in our favor, we may be required to expend significant time and financial resources on the defense of such claims. Regardless of the merits or eventual outcome, such a claim could harm our brand and business. Furthermore, an adverse outcome of a dispute may require us to pay damages, potentially including treble damages and attorneys' fees, if we are found to have willfully infringed a party's intellectual property; cease making, licensing or using our solutions that are alleged to infringe or misappropriate the intellectual property of others; expend additional development resources to redesign our solutions; enter into potentially unfavorable royalty or license agreements in order to obtain the right to use necessary technologies or works; and to indemnify our partners, customers and other third parties. Any of these events could seriously harm our business, results of operations and financial condition.

Indemnity provisions in various agreements potentially expose us to substantial liability for intellectual property infringement and other losses.

Our agreements with customers and other third parties generally include indemnification provisions under which we agree to indemnify them for losses suffered or incurred as a result of claims of intellectual property infringement, or other liabilities relating to or arising from our software, services, or other contractual obligations. Large indemnity payments could harm our business, results of operations, and financial condition. Although our normal practice is to contractually limit our liability with respect to such indemnity obligations, those limitations may not be fully enforceable in all situations, and we may still incur substantial liability under those agreements. Any dispute with a customer with respect to such obligations could have adverse effects on our relationship with that customer and other existing customers and new customers and harm our business and results of operations.

Failure to protect our intellectual property could substantially harm our business and results of operations.

Our success depends in part on our ability to enforce and defend our intellectual property rights. We rely upon a combination of trademark, trade secret, copyright, patent and unfair competition laws, as well as license agreements and other contractual provisions, to do so.

In the future we may file patent applications related to certain of our innovations. We do not know whether those patent applications will result in the issuance of a patent or whether the examination process will require us to narrow our claims. In addition, we may not receive competitive advantages from the rights granted under our patents and other intellectual property. Our existing patents and any patents granted to us or that we otherwise acquire in the future, may be contested, circumvented or invalidated, and we may not be able to prevent third parties from infringing these patents. Therefore, the extent of the protection afforded by these patents cannot be predicted with certainty. In addition, given the costs, effort, risks and downside of obtaining patent protection, including the requirement to ultimately disclose the invention to the public, we may choose not to seek patent protection for certain innovations; however, such patent protection could later prove to be important to our business.

We also rely on several registered and unregistered trademarks to protect our brand. Nevertheless, competitors may adopt service names similar to ours, or purchase our trademarks and confusingly similar terms as keywords in Internet search engine advertising programs, thereby impeding our ability to build brand identity and possibly leading to confusion in the marketplace. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our trademarks. Any claims or customer confusion related to our trademarks could damage our reputation and brand and substantially harm our business and results of operations.

We attempt to protect our intellectual property, technology and confidential information by generally requiring our employees and consultants to enter into confidentiality and assignment of inventions agreements and third parties to enter into nondisclosure agreements, all of which offer only limited protection. These agreements may not effectively prevent unauthorized use or disclosure of our confidential information, intellectual property or technology and may not provide an adequate remedy in the event of unauthorized use or disclosure of our confidential information, intellectual property or technology. Despite our efforts to protect our confidential information, intellectual property, and technology, unauthorized third parties may gain access to our confidential proprietary information, develop and market solutions similar to ours, or use trademarks similar to ours, any of which could materially harm our business and results of operations. In addition, others may independently discover our trade secrets and confidential information, and in such cases, we could not assert any trade secret rights against such parties. Existing United States federal, state and international intellectual property laws offer only limited protection. The laws of some foreign countries do not protect our intellectual property rights to as great an extent as the laws of the United States, and many foreign countries do not enforce these laws as diligently as governmental agencies and private parties in the United States. Moreover, policing our intellectual property rights is difficult, costly and may not always be effective.

From time to time, legal action by us may be necessary to enforce our patents and other intellectual property rights, to protect our trade secrets, to determine the validity and scope of the intellectual property rights of others or to defend against claims of infringement or invalidity. Even if we are successful in defending our claims, litigation could result in substantial costs and diversion of resources and could negatively affect our business, reputation, results of operations and financial condition. To the extent that we seek to enforce our rights, we could be subject to claims that an intellectual property right is invalid, otherwise not enforceable, or is licensed to the party against whom we are pursuing a claim. In addition, our assertion of intellectual property rights may result in the other party seeking to assert alleged intellectual property rights or assert other claims against us, which could harm our business. If we are not successful in defending such claims in litigation, we may not be able to sell or license a particular solution due to an injunction, or we may have to pay damages that could, in turn, harm our results of operations. In addition, governments may adopt regulations, or courts may render decisions, requiring compulsory licensing of intellectual property to others, or governments may require that products meet specified standards that serve to favor local companies. Our inability to enforce our intellectual property rights under these circumstances may harm our competitive position and our business. If we are unable to protect our technology and to adequately maintain and protect our intellectual property rights, we may find ourselves at a competitive disadvantage to others who need not incur the additional expense, time and effort required to create the innovative solutions that have enabled us to be successful to date.

If our solutions or third-party cloud providers experience data security breaches, and there is unauthorized access to our customers' data, we may lose current or future customers and our reputation and business may be harmed.

If our security measures are breached or unauthorized access to customer data is otherwise obtained, our solutions may be perceived as not being secure, customers may reduce the use of or stop using our solutions, and we may incur significant liabilities. Our solutions involve the storage and transmission of data, in some cases to third-party cloud providers, which may include personal data, and security breaches, including at third-party cloud providers, could result in the loss of this information, which in turn could result in litigation, breach of contract claims, indemnity obligations, reputational damage and other liability for our company. Despite the measures that we have or may take, our infrastructure will be potentially vulnerable to physical or electronic break-ins, computer viruses or similar problems, and in the case of third-party cloud providers, may be outside of our control. If a person circumvents our security measures, that person could misappropriate proprietary information or disrupt or damage our operations. Security breaches that result in access to confidential information could damage our reputation and subject us to a risk of loss or liability. We may be required to make significant expenditures to protect against or remediate security breaches. Additionally, if we are unable to adequately address our customers' concerns about security, we will have difficulty selling our solutions and professional services.

We rely on third-party technology and systems for a variety of services, including, without limitation, third-party cloud providers to host our websites and web-based services, encryption and authentication technology, employee email, content delivery to customers, back-office support and other functions, and our ability to control or prevent breaches of any of these systems may be beyond our control. Because techniques used to obtain unauthorized access or sabotage systems change frequently and generally are not identified until they are launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. Although we have developed systems and processes that are designed to protect customer information and prevent data loss and other security breaches, including systems and processes designed to reduce the impact of a security breach at a third-party vendor, such measures cannot provide absolute security. In addition, we may have to introduce such protective systems and processes to acquired companies, who may not correctly implement them at first or at all. Any or all of these issues could negatively impact our ability to attract new customers or to increase engagement by existing customers, could cause existing customers to elect not to renew their SaaS arrangements or term licenses, or could subject us to third-party lawsuits, regulatory fines or other action or liability, thereby adversely affecting our results of operations.

We may be obligated to disclose our proprietary source code to our customers, which may limit our ability to protect our intellectual property and could reduce the renewals of our maintenance and support services.

Our SaaS arrangements and license agreements sometimes contain provisions permitting the customer to become a party to, or a beneficiary of, a source code escrow agreement under which we place the proprietary source code for our applicable solutions in escrow with a third-party. Under these escrow agreements, the source code to the applicable product may be released to the customer, typically for its use to maintain, modify and enhance the product, upon the occurrence of specified events, such as our filing for bankruptcy or the discontinuance of our ability to perform our obligations, or if we otherwise breach certain of our representations, warranties or covenants under our agreements with our customers.

Disclosing the content of our source code may limit the intellectual property protection we can obtain or maintain for that source code or the solutions containing that source code and may facilitate intellectual property infringement claims against us. It also could permit a customer to which a solution's source code is disclosed to support and maintain that solution without being required to purchase our support or maintenance services. Each of these would harm our business, results of operations and financial condition.

We and our customers rely on technology and intellectual property of third parties, the loss of which could limit the functionality of our solutions and disrupt our business.

We use technology and intellectual property licensed from unaffiliated third parties in certain of our solutions, and we may license additional third-party technology and intellectual property in the future. Any errors or defects in this third-party technology and intellectual property could result in errors that could harm our brand and business. In addition, licensed technology and intellectual property may not continue to be available on commercially reasonable terms, or at all. The loss of the right to license and distribute this third-party technology could limit the functionality of our solutions and might require us to redesign our solutions.

Any disruption of our Internet connections, including to any third-party cloud providers that host any of our websites or web-based services, could affect the success of our SaaS solutions.

Any system failure, including network, software or hardware failure, that causes an interruption in our network or a decrease in the responsiveness of our website and our SaaS solutions could result in reduced user traffic, reduced revenue and potential breaches of our SaaS arrangements. Continued growth in Internet usage could cause a decrease in the quality of Internet connection service. Websites have experienced service interruptions as a result of outages and other delays occurring throughout the worldwide Internet network infrastructure. In addition, there have been several incidents in which individuals have intentionally caused service disruptions of major e-commerce websites. If these outages, delays or service disruptions frequently occur in the future, usage of our web-based services could grow more slowly than anticipated or decline and we may lose revenue and customers.

If the third-party cloud providers that host any of our websites or web-based services were to experience a system failure, the performance of our websites and web-based services, including our SaaS solutions, would be harmed. Currently, we rely on one third-party cloud provider to host our websites and web-based services. As a result, it may take significant resources if we need to switch to another cloud provider for any reason. Any disruption of or interference with our use of this third-party cloud provider could impair our ability to deliver our solutions to our customers, resulting in customer dissatisfaction, damage to our reputation, loss of customers and harm to our operations and our business. In general, third-party cloud providers are vulnerable to damage from fire, floods, earthquakes, acts of terrorism, power loss, telecommunications failures, break-ins and similar events. The controls implemented by our current or future third-party cloud providers may not prevent or timely detect such system failures and we do not control the operation of third-party cloud providers that we use. Our current or future third-party cloud providers could decide to close their facilities without adequate notice. In addition, any financial difficulties, such as bankruptcy, faced by our current or future third-party cloud providers, or any of the service providers with whom we or they contract, may have negative effects on our business. If our current or future third-party cloud providers are unable to keep up with our growing needs for capacity or any spikes in customer demand, it could have an adverse effect on our business. Any changes in service levels by our current or future third-party cloud providers could result in loss or damage to our customers'-stored information and any service interruptions at these third-party cloud providers could hurt our reputation, cause us to lose customers, harm our ability to attract new customers or subject us to potential liability. Our property and business interruption insurance coverage may not be adequate to fully compensate us for losses that may occur. Additionally, our systems are not fully redundant, and we have not yet implemented a complete disaster recovery plan or business continuity plan. Although the redundancies we do have in place will permit us to respond, at least to some degree, to service outages, our current or future third-party cloud providers that host our SaaS solutions are vulnerable in the event of failure. We do not yet have adequate structure or systems in place to recover from a third-party cloud provider's severe impairment or total destruction, and recovery from the total destruction or severe impairment of any of our third-party cloud providers could be difficult and may not be possible at all.

In addition, our users depend on Internet service providers, online service providers and other website operators for access to our website. These providers could experience outages, delays and other difficulties due to system failures unrelated to our systems. Any of these events could seriously harm our business, results of operations and financial condition.

Some of our services and technologies may use "open source" software, which may restrict how we use or distribute our services or require that we release the source code of certain solutions subject to those licenses.

Some of our services and technologies may incorporate software licensed under so-called "open source" licenses. In addition to risks related to license requirements, usage of open source software can lead to greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties or controls on origin of the software. Additionally, some open source licenses require that source code subject to the license be made available to the public and that any modifications to or derivative works of open source software continue to be licensed under open source licenses. These open source licenses typically mandate that proprietary software, when combined in specific ways with open source software, become subject to the open source license. If we combine our proprietary solutions in such ways with certain open source software, we could be required to release the source code of our proprietary solutions.

We take steps to ensure that our proprietary solutions are not combined with, and do not incorporate, open source software in ways that would require our proprietary solutions to be subject to many of the restrictions in an open source license. However, few courts have interpreted open source licenses, and the manner in which these licenses may be interpreted and enforced is therefore subject to some uncertainty. Additionally, we rely on software programmers to design our proprietary technologies, and although we take steps to prevent our programmers from including objectionable open source software in the technologies and software code that they design, write and modify, we do not exercise complete control over the development efforts of our programmers and we cannot be certain that our programmers have not incorporated such open source software into our proprietary solutions and technologies or that they will not do so in the future. In the event that portions of our proprietary technology are determined to be subject to an open source license, we could be required to publicly release the affected portions of our source code, re-engineer all or a portion of our technologies, or otherwise be limited in the licensing of our technologies, each of which could reduce or eliminate the value of our services and technologies and materially and adversely affect our business, results of operations and prospects.

Privacy concerns could result in regulatory changes and impose additional costs and liabilities on us, limit our use of information and adversely affect our business.

As we increase our focus on our SaaS solutions, the amount of customer data we or our third-party cloud providers manage, hold and/or collect will increase significantly. In addition, a limited number of our solutions may collect, process, store, and use transaction-level data aggregated across insurers using our common data model. We anticipate that over time we will expand the use and collection of personal information as greater amounts of such personal information may be transferred from our customers to us and we recognize that personal privacy has become a significant issue in the United States, Europe, and many other jurisdictions where we operate. Many federal, state, and foreign legislatures and government agencies have imposed or are considering imposing restrictions and requirements about the collection, use and disclosure of personal information.

Changes to laws or regulations affecting privacy could impose additional costs and liabilities, including fines, on us and could limit our use of such information to add value for customers. If we were required to change our business activities or revise or eliminate services, or to implement burdensome compliance measures, our business and results of operations could be harmed. Additionally, in the case of data from our websites and web-based services that is stored with third-party cloud providers that we do not control, our third-party cloud providers may not adequately implement compliance measures concerning the privacy and/or security of any stored personal information. We may be subject to fines, penalties and potential litigation if we or our third-party cloud providers fail to comply with applicable privacy and/or data security laws, regulations, standards and other requirements. The costs of compliance with and other burdens imposed by privacy-related laws, regulations and standards may limit the use and adoption of our solutions and reduce overall demand.

Furthermore, concerns regarding data privacy and/or security may cause our end-users to resist providing the data and information necessary to allow our customers to use our solutions effectively. Even the perception that the privacy and/or security of personal information is not satisfactorily managed, or does not meet applicable legal, regulatory and other requirements, could inhibit sales of our solutions, and could limit adoption of our solutions, resulting in a negative impact on our sales and results from operations.

Failure to comply with the GDPR or other data privacy regimes could subject us to fines and reputational harm.

Global privacy legislation, enforcement and policy activity are rapidly expanding and creating a complex data privacy compliance environment and the potential for high profile negative publicity in the event of any data breach. We are subject to many privacy and data protection laws and regulations in the United States and around the world, some of which place restrictions on our ability to process personal data across our business. For example, the GDPR is a comprehensive update to the data protection regime in the European Economic Area that became effective on May 25, 2018. The GDPR imposes new requirements relating to, among other things, consent to process personal data of individuals, the information provided to individuals regarding the processing of their personal data, the security and confidentiality of personal data, and notifications in the event of data breaches and use of third-party processors. The GDPR imposes substantial fines for breaches of data protection requirements, which can be up to four percent of the worldwide revenue or 20 million Euros, whichever is greater. While we will continue to undertake efforts to conform to current regulatory obligations and evolving best practices, we may be unsuccessful in conforming to means of transferring personal data from the European Economic Area. We may also experience hesitancy, reluctance, or refusal by European or multi-national customers to continue to use some of our services due to the potential risk exposure of personal data transfers and the current data protection obligations imposed on them by certain data protection authorities. Such customers may also view any alternative approaches to the transfer of any personal data as being too costly, too burdensome, or otherwise objectionable, and therefore may decide not to do business with us if the transfer of personal data is a necessary requirement.

In addition, the CCPA, which went into effect on January 1, 2020, limits how we may collect, use and process personal data of California residents. The CCPA establishes a new privacy framework for covered businesses such as ours by, among other things, creating an expanded definition of personal information, establishing new data privacy rights for California residents and creating a new and potentially severe statutory damages framework and private rights of action for violations of the CCPA and for businesses that fail to implement reasonable security procedures and practices to prevent data breaches. The uncertainty and changes in the requirements of multiple jurisdictions may increase the cost of compliance, restrict our ability to offer services in certain locations or subject us to sanctions by national, regional, state, local and international data protection regulators, all of which could harm our business, results of operations or financial condition.

Although we take reasonable efforts to comply with all applicable laws and regulations and have invested and continue to invest human and technology resources into data privacy compliance efforts, there can be no assurance that we will not be subject to regulatory action, including fines, in the event of an incident or other claim. We or our third-party service providers could be adversely affected if legislation or regulations are expanded to require changes in our or our third-party service providers' business practices or if governing jurisdictions interpret or implement their legislation or regulations in ways that negatively affect our or our third-party service providers' business, results of operations or financial condition.

Though our term and perpetual licensing model does not significantly collect and transfer personal information from our customers to us, our increased focus on SaaS solutions and the current data protection landscape may subject us to greater risk of potential inquiries and/or enforcement actions. For example, we may find it necessary to establish alternative systems to maintain personal data originating from the European Union in the European Economic Area, which may involve substantial expense and may cause us to divert resources from other aspects of our business, all of which may adversely affect our results from operations. Further, any inability to adequately address privacy concerns in connection with our SaaS solutions, or comply with applicable privacy or data protection laws, regulations and policies, could result in additional cost and liability to us, and adversely affect our ability to offer SaaS solutions.

Anticipated further evolution of regulations on this topic may substantially increase the penalties to which we could be subject in the event of any non-compliance. We may incur substantial expense in complying with the new obligations to be imposed by new regulations and we may be required to make significant changes to our solutions and expanding business operations, all of which may adversely affect our results of operations.

Risks Related to Accounting, Legal, Regulatory and Tax Matters

Our estimates of certain operational metrics, as well as of total addressable market and market growth, are subject to inherent challenges in measurement.

We make certain estimates with regard to certain operational metrics which we track using internal systems that are not independently verified by any third party. While the metrics presented in this Annual Report on Form 10-K are based on what we believe to be reasonable assumptions and estimates, our internal systems have a number of limitations, and our methodologies for tracking these metrics may change over time.

Additionally, total addressable market and growth estimates are subject to significant uncertainty and are based on assumptions and estimates that may not prove to be accurate. Our estimates relating to size and expected growth of our market may prove to be inaccurate. Even if the market in which we compete meets our size and growth estimates, our business could fail to grow at similar rates. If investors do not perceive our estimates of total addressable market and market growth or our operational metrics to be accurate, or if we discover material inaccuracies with respect to these figures, our reputation may be significantly harmed, and our results of operations and financial condition could be adversely affected.

If tax laws change or we experience adverse outcomes resulting from examination of our income tax returns, it could adversely affect our results of operations.

We are subject to federal, state and local income taxes in the United States and in foreign jurisdictions. Our future effective tax rates and the value of our deferred tax assets could be adversely affected by changes in tax laws, including impacts of the Tax Cuts and Jobs Act of Public Law No. 115-97 and the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act"), the consequences of which have not yet been fully determined. In addition, we are subject to the examination of our income tax returns by the Internal Revenue Service and other tax authorities. We regularly assess the likelihood of adverse outcomes resulting from such examinations to determine the adequacy of our provision for income taxes. Significant judgment is required in determining our worldwide provision for income taxes. Although we believe we have made appropriate provisions for taxes in the jurisdictions in which we operate, changes in the tax laws or challenges from tax authorities under existing tax laws could adversely affect our business, financial condition and results of operations.

Uncertainty in the marketplace regarding the use of Internet users' personal information, or legislation limiting such use, could reduce demand for our services and result in increased expenses.

Concern among consumers and legislators regarding the use of personal information gathered from Internet users could create uncertainty in the marketplace. This could reduce demand for our services, increase the cost of doing business as a result of litigation costs or increased service delivery costs, or otherwise harm our business. Many state insurance codes limit the collection and use of personal information by insurance agencies, brokers and carriers or insurance service organizations.

Future government regulation of the Internet could place financial burdens on our businesses.

The future success of our business depends upon the continued use of the Internet as a primary medium for commerce, communication and business services. Because of the Internet's popularity and increasing use, federal, state or foreign government bodies or agencies have adopted, and may in the future adopt, new laws or regulations affecting the use of the Internet as a commercial medium. These laws and regulations may cover issues such as the collection and use of data from website visitors and related privacy issues; pricing; taxation; telecommunications over the Internet; content; copyrights; distribution; and domain name piracy. The enactment of any additional laws or regulations of the Internet, including international laws and regulations, could impede the growth of subscription revenue and place additional financial burdens on our business.

Risks Related to COVID-19

Public health outbreaks, the measures taken to contain the spread of such outbreaks and the impact of such outbreaks on the global economy could harm our business, results of operations, and financial condition.

Public health outbreaks, epidemics or pandemics, could materially and adversely impact our business. For example, the COVID-19 virus resulted in numerous countries, including the United States, declaring national emergencies with respect to COVID-19. The outbreak and the public health measures undertaken by governments, businesses and individuals to contain the spread of COVID-19, included orders to shelter-in-place and restrictions on travel and permitted business operations. While most of those restrictions have been relaxed, an increase in COVID-19 cases or variations thereof may result in the reimposition of such restrictive measures, could and continue to result in global business disruptions that adversely affect workforces, organizations, economies, and financial markets globally, leading to an economic downturn and increased market volatility. The ongoing outbreak has disrupted, and will likely continue to disrupt, the normal operations of many businesses, including our customers, as well as the ability of our technical support teams and sales force to travel to existing customers and new business prospects, and the operations of our customers and SI partners. While our business has not, to date, experienced a material disruption in bookings or sales from the COVID-19 pandemic, should the outbreak or variations thereof intensify, we may experience delays in services delivery, implementations, critical development and commercialization activities, including delays in the introduction of new products and services and further international expansion, interruptions in sales and marketing activity, furloughs of employees and disruptions of supply chains.

The related impact on the global economy could also decrease technology spending by our existing and prospective customers and adversely affect their demand for our solutions. Further, our sales and implementation cycles could increase resulting in providing contract terms more favorable to customers and a potentially longer delay between incurring operating expenses and the generation of corresponding revenue or in difficulty in accurately predicting our financial forecasts. Additionally, an economic downturn has the potential to significantly reduce individual and business disposable income and depress consumer confidence, which could limit the ability or willingness of some consumers to obtain and pay for insurance products in both the short- and medium-term, which may negatively impact the ability of our customers to pay for our services or require such customers to request amended payment terms for their outstanding invoices. Furthermore, we are unable to predict the impact that COVID-19 may have going forward on the business, results of operations or financial position of any of our major customers, which could impact each customer to varying degrees and at different times and could ultimately impact our own financial performance. Certain of our competitors may also be better equipped to weather the impact of COVID-19 both domestically and abroad and better able to address changes in customer demand.

The outbreak has also presented operational challenges, included those related to working remotely and self-imposed restrictions on international and domestic travel. We depend on key officers and employees; should any of them become ill and unable to work, it could impact our productivity and business continuity. Although we continue to monitor the situation and have adjusted our policies as more information and public health guidance become available, it is not possible for us to predict the duration or magnitude of these business disruptions and the adverse results of the outbreak, which ultimately will depend on many factors, including the speed and effectiveness of containment efforts throughout the world, including those related to variations of COVID-19. These disruptions could negatively affect our operations or internal controls over financial reporting and may require us to implement new processes, procedures and controls to respond to further changes in our business environment.

Additionally, COVID-19 could increase the magnitude of many of the other risks described herein and have other adverse effects on our operations that we are not currently able to predict. For example, we have, and may continue to delay or limit our internal strategies in the short- and medium-term by, for example, redirecting significant resources and management attention away from implementing our strategic priorities or executing opportunistic corporate development transactions (including our international expansion).

The magnitude of the effect of COVID-19 on our business will depend, in part, on the length and severity of the restrictions and other limitations on our ability to conduct our business in the ordinary course. The longer the pandemic continues or resurges, the more severe the impacts described above will be on our business. The extent, length and consequences of the pandemic on our business, including our customers' purchasing decisions and other reactions, are uncertain and impossible to predict but could be material. COVID-19 and other similar outbreaks, epidemics or pandemics could have a material adverse effect on our business, financial condition, results of operations, cash flows and prospects and could cause significant volatility in the trading prices of our common stock as a result of any of the risks described above and other risks that we are not able to predict.

To the extent the COVID-19 pandemic adversely affects our business and financial results, it may also have the effect of heightening many of the other risks described in this "Risk Factors" section, such as those relating to our liquidity.

Risks Related to Our Organizational Structure

Pursuant to the Stockholders' Agreement, Apax and Accenture have significant influence through the voting power of the shares of our common stock eligible to vote in the election of our directors and on other matters submitted to a vote of our stockholders, and Apax's and Accenture's interests may conflict with ours or yours in the future.

Pursuant to the Stockholders' Agreement, dated as of August 14, 2020, among us, Apax and Accenture (the "Stockholders' Agreement") we are required to take all necessary action to cause our board of directors to include individuals designated by Apax and Accenture with the number of directors so designated being subject to certain ownership thresholds. Apax and Accenture, individually, are required to vote all of their shares, and take all other necessary actions, to cause our board of directors to include the individuals designated as directors by Apax and Accenture (as applicable). For so long as Apax and Accenture continue to own a significant percentage of our common stock, Apax and Accenture, through their collective voting power and certain protective provisions, are able to significantly influence the composition of our board of directors and the approval of actions requiring stockholder approval. For example, each of Apax and Accenture have certain consent rights so long as such stockholder owns at least 5% of the outstanding equity securities of the Company that are not shares of our common stock awarded under the Company's 2020 Omnibus Incentive Plan or other incentive equity plan. Accordingly, for such period of time, Apax and Accenture have significant influence with respect to our management, business plans, and policies, including the appointment and removal of our officers. In particular, Apax and Accenture are able to cause or prevent a change of control of us or a change in composition of our board of directors and could preclude any unsolicited acquisition of us. The concentration of voting power could deprive you of an opportunity to receive a premium for your shares of common stock as part of the sale of us and ultimately might affect the market price of our common stock.

If the ownership of our common stock continues to be highly concentrated, it may prevent you and other minority stockholders from influencing significant corporate decisions and may result in conflicts of interest.

Apax owns approximately 23.8% of our common stock and Accenture owns approximately 15.9% of our common stock. This concentration of ownership may delay, deter or prevent acts that would be favored by our other stockholders. The interests of Apax may not always coincide with our interests or the interests of our other stockholders. For example, Apax exercises significant influence over all matters requiring a stockholder vote, including: the election of directors; mergers, consolidations and acquisitions; the sale of all or substantially all of our assets and other decisions affecting our capital structure; the amendment of our amended and restated certificate of incorporation and our amended and restated bylaws; and our winding up and dissolution. This concentration of ownership may also have the effect of delaying, preventing or deterring a change in control of us. Also, Apax may seek to cause us to take courses of action that, in its judgement, could enhance its investment in us, but which might involve risks to our other stockholders or adversely affect us or our other stockholders. As a result, the market price of our common stock could decline or stockholders might not receive a premium over the then-current market price of our common stock upon a change in control. In addition, this concentration of share ownership may adversely affect the trading price of our common stock because investors may perceive disadvantages in owning shares in a company with significant stockholders.

Certain provisions of Delaware Law, the Stockholders' Agreement, our amended and restated certificate of incorporation and our amended and restated bylaws could hinder, delay or prevent a change in control of us, which could adversely affect the price of our common stock.

Certain provisions of Delaware Law, the Stockholders' Agreement, our amended and restated certificate of incorporation and our amended and restated bylaws contain provisions that could make it more difficult for a third-party to acquire us without the consent of our board of directors, Apax or Accenture.

As a Delaware corporation, we are subject to provisions of Delaware law, including Section 203 of the Delaware General Corporation Law, as amended (the "DGCL"), which prevents some stockholders holding more than 15% of our outstanding common stock from engaging in certain business combinations without approval of the holders of substantially all of our outstanding common stock. Furthermore, pursuant to the Stockholders' Agreement, Apax and Accenture have significant influence through the voting power of the shares of our common stock eligible to vote in the election of our directors and on other matters submitted to a vote of our stockholders. For so long as Apax and Accenture continue to own a significant percentage of our common stock, Apax and Accenture, through their collective voting power and certain protective provisions, are able to significantly influence the composition of our board of directors and the approval of actions requiring stockholder approval.

In addition, under our amended and restated certificate of incorporation, our board of directors has the authority to cause the issuance of preferred stock from time to time in one or more series and to establish the terms, preferences and rights of any such series of preferred stock, all without approval of our stockholders. Nothing in our amended and restated certificate of incorporation precludes future issuances without stockholder approval of the authorized but unissued shares of our common stock. Further, our amended and restated certificate of incorporation provides for a staggered board of directors and does not provide for cumulative voting in the election of our directors and our amended and restated certificate of incorporation and our amended and restated bylaws do not permit our stockholders to call special meetings. These factors could have the effect of making the replacement of incumbent directors more time consuming and difficult.

These provisions may make it difficult and expensive for a third party to pursue a tender offer, change in control or takeover attempt that is opposed by Apax, Accenture, our management or our board of directors. Public stockholders who might desire to participate in these types of transactions may not have an opportunity to do so, even if the transaction is favorable to stockholders. These anti-takeover provisions could substantially impede the ability of public stockholders to benefit from a change in control or change our management and board of directors and, as a result, may adversely affect the market price of our common stock and stockholders' ability to realize any potential change of control premium.

Certain of our stockholders have the right to engage or invest in the same or similar businesses as us.

Apax and Accenture each engage in other investments and business activities in addition to their ownership of us. Under our amended and restated certificate of incorporation, Apax and Accenture each have the right, and have no duty to abstain from exercising such right, to engage or invest in the same or similar businesses as us, do business with any of our customers or vendors, or employ or otherwise engage any of our officers, directors or employees. If Apax, Accenture or any of their respective officers, directors or employees acquire knowledge of a potential transaction that could be a corporate opportunity, they have no duty, to the fullest extent permitted by law, to offer such corporate opportunity to us, our stockholders or our affiliates.

In the event that any of our directors and officers who is also a director, officer or employee of Apax or Accenture acquires knowledge of a corporate opportunity or is offered a corporate opportunity, provided that this knowledge was not acquired solely in such person's capacity as our director or officer and such person acts in good faith to the fullest extent permitted by law, then even if Apax or Accenture pursues or acquires the corporate opportunity or if Apax or Accenture does not present the corporate opportunity to us, such person is deemed to have fully satisfied such person's fiduciary duties owed to us and is not liable to us.

Risks Related to Ownership of Our Common Stock

The market price and trading volume of our common stock may be volatile, which could result in losses for our stockholders.

The sale by Apax or Accenture of a substantial number of shares, or a perception that such sales could occur, could significantly reduce the market price of our common stock. The market price of our common stock may be highly volatile and could be subject to wide fluctuations. In addition, the trading volume in our common stock may fluctuate and cause significant price variations to occur. If the market price of our common stock declines significantly, stockholders' may be unable to resell their shares at or above their purchase price, if at all. The market price of our common stock may fluctuate or decline significantly in the future. Some of the factors that could negatively affect our share price or result in fluctuations in the price or trading volume of our common stock include:

- variations in our quarterly or annual operating results;
- our ability to attract new customers, particularly larger customers, in both domestic and international markets and our ability to increase sales to and renew agreements with our existing customers, particularly larger customers, at comparable prices;
- the timing of our customers' buying decisions and reductions in our customers' budgets for IT purchases and delays in their purchasing cycles, particularly in light of recent adverse global economic conditions;
- changes in our earnings estimates (if provided) or differences between our actual financial and operating results and those expected by investors and analysts;
- the contents of published research reports about us or our industry or the failure of securities analysts to cover our common stock;
- additions to, or departures of, key management personnel;
- any increased indebtedness we may incur in the future;
- announcements and public filings by us or others and developments affecting us;
- actions by institutional stockholders;
- litigation and governmental investigations;
- operating and stock performance of other companies that investors deem comparable to us (and changes in their market valuations) and overall performance of the equity markets;
- speculation or reports by the press or investment community with respect to us or our industry in general;
- increases in market interest rates that may lead purchasers of our shares to demand a higher yield;
- announcements by us or our competitors of significant contracts, acquisitions, dispositions, strategic relationships, joint ventures or capital commitments;
- announcements or actions taken by Apax as our significant stockholder;
- sales of substantial amounts of our common stock by Apax or other significant stockholders or our insiders, or the expectation that such sales might occur;
- volatility or economic downturns in the markets in which we, our customers and our SI partners are located caused by pandemics, including the COVID-19 pandemic, and related policies and restrictions undertaken to contain the spread of such pandemics or potential pandemics; and
- general market, political and economic conditions, in the insurance industry in particular, including any such conditions and local conditions in the markets in which any of our customers are located.

These broad market and industry factors and the risk factors described herein may decrease the market price of our common stock, regardless of our actual operating performance. The stock market in general has from time to time experienced extreme price and volume fluctuations, including in recent months. In addition, in the past, following periods of volatility in the overall market and the market price of a company's securities, securities class action litigation has often been instituted against these companies. This litigation, if instituted against us, could result in substantial costs and a diversion of our management's attention and resources.

Future offerings of debt or equity securities by us may materially adversely affect the market price of our common stock.

In the future, we may attempt to obtain financing or to further increase our capital resources by issuing additional shares of our common stock or offering debt or other equity securities, including senior or subordinated notes, debt securities convertible into equity or shares of preferred stock. In addition, we may seek to expand operations in the future to other markets which we would expect to finance through a combination of additional issuances of equity, corporate indebtedness and/or cash from operations.

Issuing additional shares of our common stock or other equity securities or securities convertible into equity may dilute the economic and voting rights of our existing stockholders or reduce the market price of our common stock or both. Upon liquidation, holders of such debt securities and preferred shares, if issued, and lenders with respect to other borrowings would receive a distribution of our available assets prior to the holders of our common stock. Debt securities convertible into equity could be subject to adjustments in the conversion ratio pursuant to which certain events may increase the number of equity securities issuable upon conversion. Preferred shares, if issued, could have a preference with respect to liquidating distributions or a preference with respect to dividend payments that could limit our ability to pay dividends to the holders of our common stock. Our decision to issue securities in any future offering will depend on market conditions and other factors beyond our control, which may adversely affect the amount, timing or nature of our future offerings. Thus, holders of our common stock bear the risk that our future offerings may reduce the market price of our common stock and dilute their stockholdings in us.

We also have an aggregate of 164,629,721 shares of common stock authorized but unissued and not reserved for issuance under our incentive plans. We may issue all of the shares of common stock without any approval by our stockholders, subject to certain exceptions. Any common stock issued in connection with our incentive plans, the exercise of outstanding stock options or otherwise would dilute the percentage ownership held by stockholders.

The market price of our common stock could be negatively affected by sales of substantial amounts of our common stock in the public markets.

Pursuant to the Registration Rights Agreement, Apax, Accenture and certain of our other pre-IPO investors and their respective affiliates and permitted third-party transferees have the right, in certain circumstances, to require us to register their shares of our common stock under the Securities Act for sale into the public markets. Upon the effectiveness of such a registration statement, all shares covered by the registration statement will be freely transferable. See "Item 13. Certain relationships and related party transactions - Registration Rights Agreement."

The market price of our common stock may decline significantly when the restrictions on resale by our existing stockholders lapse. A decline in the price of our common stock might impede our ability to raise capital through the issuance of additional common stock or other equity securities.

If securities or industry analysts do not publish research or reports about our business or publish negative reports, our stock price could decline.

The trading market for our common stock is influenced by the research and reports that industry or securities analysts publish about us or our business. If one of more of these analysts ceases coverage of our company or fails to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline. Moreover, if one or more of the analysts who cover our company downgrades our common stock or if our reporting results do not meet their expectations, our stock price could decline.

We have not paid dividends in the past and do not anticipate paying any dividends on our common stock in the foreseeable future.

We have never paid cash dividends on our common stock and have no plans to pay regular dividends on our common stock in the foreseeable future. Any declaration and payment of future dividends to holders of our common stock will be at the sole discretion of our board of directors and will depend on many factors, including our financial condition, earnings, capital requirements, level of indebtedness, statutory and contractual restrictions applying to the payment of dividends and other considerations that our board of directors deems relevant. Because we are a holding company and have no direct operations, we will only be able to pay dividends from our available cash on hand and any funds we receive from our subsidiaries. Certain of our debt agreements limit the ability of certain of our subsidiaries to pay dividends. In addition, Delaware law may impose requirements that may restrict our ability to pay dividends. Until such time that we pay a dividend, our investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investment.

Our amended and restated certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for certain stockholder litigation matters, which could discourage stockholder lawsuits or limit our stockholders' ability to bring a claim in any judicial forum that they find favorable for disputes with us or our officers and directors.

Pursuant to our amended and restated certificate of incorporation, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a duty (including any fiduciary duty) owed by any current or former director, officer, stockholder, employee or agent of the Company or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the DGCL, our amended and restated certificate of incorporation or our amended and restated bylaws or (iv) any action asserting a claim governed by the internal affairs doctrine, in each case, subject to the Court of Chancery having personal jurisdiction over the indispensable party named as a defendant therein. If the Court of Chancery of the State of Delaware does not have jurisdiction, the sole and exclusive forum for such action or proceeding shall be another state or federal court located in the State of Delaware.

Our amended and restated certificate of incorporation and bylaws further provide that any person or entity purchasing, otherwise acquiring or holding any interest in shares of our capital stock will be deemed to have notice of and consented to the forum selection clause. The forum selection clause in our amended and restated certificate of incorporation may have the effect of discouraging stockholder lawsuits or limiting our stockholders' ability to bring a claim in any judicial forum that they find favorable for disputes with us or our officers and directors.

We are incurring increased costs as a result of operating as a public company, and our management is being required to devote substantial time to new compliance initiatives and corporate governance practices. We may fail to comply with the rules that apply to public companies, including Section 404 of the Sarbanes-Oxley Act, which could result in sanctions or other penalties that would harm our business.

As a public company we incur significant legal, accounting, and other expenses that we did not incur as a private company, including costs resulting from public company reporting obligations under the Securities Act, or the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and regulations regarding corporate governance practices. The Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the rules of the SEC, the listing requirements of Nasdaq, and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. We have continued to hire additional accounting, finance, and other personnel in connection with efforts to comply with the requirements of being a public company, and our management and other personnel devote a substantial amount of time towards maintaining compliance with these requirements. These requirements have increased our legal and financial compliance costs and will make some activities more time-consuming and costly. In addition, these rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. Any changes we make to comply with these obligations may not be sufficient to allow us to satisfy our obligations as a public company on a timely basis, or at all. These reporting requirements, rules and regulations, coupled with the increase in potential litigation exposure associated with being a public company, could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors or board committees or to serve as executive officers, or to obtain certain types of insurance, including directors' and officers' insurance, on acceptable terms.

Pursuant to Sarbanes-Oxley Act Section 404, we are required to furnish a report by our management on our internal control over financial reporting beginning with this filing of an Annual Report on Form 10-K. In order to maintain effective internal controls, we have allocated additional financial personnel and systems and continue to dedicate internal resources, potentially engage outside consultants, adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented, and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that we will not be able to conclude that our internal control over financial reporting is effective as required by Sarbanes-Oxley Act Section 404. If we identify one or more material weaknesses, it could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

To date, we have not conducted a review of our internal controls for the purpose of providing the reports required by these rules. During the course of our review and testing, we have in the past and may in the future, identify deficiencies and be unable to remediate them before we must provide the required reports. Furthermore, if we have a material weakness in our internal control over financial reporting, we may not detect errors on a timely basis and our financial statements may be materially misstated. We or our independent registered public accounting firm may not be able to conclude on an ongoing basis that we have effective internal control over financial reporting, which could harm our operating results, cause investors to lose confidence in our reported financial information and cause the trading price of our stock to fall. In addition, as a public company we will be required to file accurate and timely quarterly and annual reports with the SEC under the Securities Act or the Exchange Act. Any failure to report our financial results on an accurate and timely basis could result in sanctions, lawsuits, delisting of our shares from Nasdaq or other adverse consequences that would materially harm our business and reputation.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our principal executive offices are located in 30,000 square feet of leased office space at 22 Boston Wharf Road, Boston, MA, pursuant to a lease that expires in 2028. We lease additional offices in Bolivar, Missouri; Rosemont, Illinois; Mumbai, India; as well as other regional offices outside the United States pursuant to leases that expire between 2022 and 2029. We do not own any real property. We believe that our current facilities are adequate for our present needs and suitable additional facilities will be available as needed on commercially reasonable terms.

Item 3. Legal Proceedings.

In the ordinary course of conducting our business, we have in the past and may in the future become involved in various legal actions and other claims. We may also become involved in other judicial, regulatory and arbitration proceedings concerning matters arising in connection with the conduct of our businesses. Some of these matters may involve claims of substantial amounts. These legal proceedings may be subject to many uncertainties and there can be no assurance of the outcome of any individual proceedings. We do not presently anticipate any material legal proceedings that, if determined adversely to us, would have a material adverse effect on our financial position, results of operations or cash flows.

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 began trading on the Nasdaq Global Select Market under the symbol “DCT” on August 14, 2020. Prior to that date, there was no public trading market for our common stock.

On August 31, 2022, the last reported sale price of our common stock on the Nasdaq Global Select Market was $11.90 per share. As of August 31, 2022, we had 15 holders of record of our common stock. The actual number of stockholders is greater than this number of record holders, and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

Dividend Policy

We have never paid cash dividends on our common stock and have no plans to pay regular dividends on our common stock in the foreseeable future. Any declaration and payment of future dividends to holders of our common stock will be at the sole discretion of our board of directors and will depend on many factors, including our financial condition, earnings, capital requirements, level of indebtedness, statutory and contractual restrictions applying to the payment of dividends and other considerations that our board of directors deems relevant. Because we are a holding company and have no direct operations, we will only be able to pay dividends from our available cash on hand and any funds we receive from our subsidiaries. Certain of our debt agreements limit the ability of certain of our subsidiaries to pay dividends. In addition, Delaware law may impose requirements that may restrict our ability to pay dividends.

Performance Graph

This performance graph shall not be deemed “soliciting material” or to be “filed” with the SEC for purposes of Section 18 of the Exchange Act or otherwise subject to the liabilities under that Section, and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act of 1933, as amended (the “Securities Act”) or the Exchange Act.

The following graph shows a comparison of the cumulative total return for our common stock, the Nasdaq Composite-Total Return Index and S&P Software & Services Select Industry Index for the period from August 14, 2020 through August 31, 2022. Such returns are based on historical results and are not intended to suggest future performance. Data for the Nasdaq Composite Total Return Index and S&P Software & Services Select Industry Index assume reinvestment of dividends.

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Unregistered Sales of Equity Securities

In November 2019, in connection with its formation, the Company sold 1 share of common stock to Disco (Cayman) Acquisition Co. for nominal consideration. The shares of common stock described above were issued in reliance on the exemption contained in Section 4(a)(2) of the Securities Act on the basis that the transactions did not involve a public offering. No underwriters were involved in the sale.

In connection with the Reorganization Transactions (as defined below), the Company issued 117,851,830 shares of common stock in consideration for equity interests of Disco Topco Holdings (Cayman), L.P . (“the Operating Partnership”), Such shares of common stock were issued in reliance on the exemption contained in Section 4(a)(2) of the Securities Act on the basis that the transactions did not involve a public offering. No underwriters were included in such issuances.

Use of Proceeds from Registered Securities

On August 13, 2020, our registration statement on Form S-1 (File No. 333-240050), relating to the IPO of common stock, became effective. The IPO closed on August 18, 2020 at which time we issued 17,250,000 shares of common stock at a public offering price of $27.00 per share. We received net proceeds from the IPO of approximately $429.2 million, after deducting the underwriting discounts and commissions of $29.1 million and estimated offering related expenses of $7.4 million.

There has been no material change in the planned use of proceeds from the IPO from that described in the prospectus filed with the SEC pursuant to Rule 424(b)(4) under the Securities Act on August 18, 2020.

Issuer Purchases of Equity Securities

The table below sets forth information regarding our purchases of our common stock made during the year ended August 31, 2022.

	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number (or Approximate Dollar Value) of Shares that May Yet Be Purchased Under the Plans or Programs
August 31, 2021 - August 31, 2022	59,254	$ 17.20	—	—
Total	59,254	$ 17.20	—	—

Item 6. Reserved

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 operations should be read together with our consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from the forward-looking statements included herein. Factors that could cause or contribute to such differences include, but are not limited to, those identified below and those discussed in the section entitled “Risk Factors” and elsewhere in this Annual Report on Form 10-K.

Overview

We are the leading cloud-based SaaS provider of core systems for the global property and casualty P&C insurance industry. We have achieved our leadership position by combining over twenty years of deep domain expertise with the differentiated SaaS capabilities and low-code configurability of our technology platform. We believe we are the first company to provide carriers with an end-to-end suite of enterprise-scale core system software that is purpose-built as a SaaS solution. Our product portfolio is built on our modern technology foundation, the *Duck Creek Platform,* and works cohesively to improve the operational efficiency of carriers’ core processes (policy administration, claims management and billing) as well as other critical functions. The *Duck Creek Platform* enables our customers to be agile and rapidly capitalize on market opportunities, while reducing their total cost of technology ownership.

Our deep understanding of the P&C insurance industry has enabled us to develop a single, unified suite of insurance software products that is tailored to address the key challenges faced by carriers. Our solutions promote carriers’ nimbleness by enabling rapid integration and streamlining the ability to capture, access and utilize data more effectively. *The Duck Creek Suite* includes several products that support the P&C insurance process lifecycle, such as:

- *Duck Creek Policy*: enables carriers to develop and launch new insurance products and manage all aspects of policy administration, from product definition to quoting, binding and servicing
- *Duck Creek Billing*: supports fundamental payment and invoicing capabilities (such as billing and collections, commission processing, disbursement management and general ledger capabilities) for all insurance lines and bill types
- *Duck Creek Claims*: supports the entire claims lifecycle from first notice of loss through investigation, payments, negotiations, reporting and closure

In addition, we offer other innovative solutions, such as *Duck Creek Rating*, *Duck Creek Insights*, *Duck Creek Digital Engagement*, *Duck Creek Distribution Management, Duck Creek Reinsurance Management*, *Duck Creek Anywhere Managed Integrations* and *Duck Creek Industry Content*, which provide additional features and functionalities that further help our customers meet the increasing and evolving demands of the P&C industry. Our customers purchase and deploy *Duck Creek OnDemand,* our SaaS solution, either individually or as a suite.

We sell our SaaS solutions through recurring fee arrangements where revenue is recognized on a monthly basis following deployment to the customer, which we refer to as subscription revenue. Substantially all of our new bookings come from the sale of SaaS subscriptions of *Duck Creek OnDemand*. For the years ended August 31, 2022, 2021 and 2020, SaaS ACV bookings represented 97%, 97% and 96% of our total ACV bookings, respectively. Historically, we have also sold our products through perpetual and term license arrangements, most commonly installed on-premise, where license revenue is typically recognized in full upon delivery of the software to the customer. We generally price our SaaS and license arrangements at individually negotiated rates based on the amount of a customer’s DWP that will be managed by our solutions with pre-determined fee adjustments as the customer’s DWP increases over the term of the contract, which typically ranges from three to seven years for our SaaS arrangements. We typically invoice our customers monthly, in advance, for SaaS fees whereas our term licenses are typically invoiced annually, in advance. The total cost of a perpetual license is billed in full upon contract signing.

We also derive revenue from maintenance and support services on our perpetual and term license products (primarily software updates, rights to unspecified software upgrades on a when-and-if-available basis and remote support services). We recognize revenue on a monthly basis as maintenance and support services are provided to customers. We generate revenue by providing professional services for both our SaaS solutions and perpetual and term license products (primarily related to implementation services) to the extent requested by our customers. The vast majority of our professional services revenue is recognized on a time and materials basis as the work is delivered to our customers. Our customers may also choose to obtain implementation services through our network of third-party SI partners who provide implementation and other related services to our customers. Our partnerships with leading SIs allow us to grow our business more efficiently by giving us scale to service our growing customer base. We continue to grow our services organization, including increasing the number of qualified consultants we employ and investing time and resources to develop relationships with new SI partners in existing and new markets.

We sell our products and services to a wide variety of carriers, including many of the largest and most recognizable brands in the P&C insurance industry, as well as smaller national and regional carriers. Our direct sales team focuses on obtaining new customers, which includes carriers that currently operate internally developed or competing systems, as well as selling into our existing customer base, which includes marketing our SaaS solutions to our term and perpetual license customers to drive adoption of our SaaS solutions and cross-selling additional applications. We are committed to continued training and development in order to increase the productivity of our sales team, with regional sales centers in North America, Europe and Australia. Our sales team is complemented by our partnerships with third-party partners, including leading SIs and solution partners. These partners provide additional market validation to our offerings, enhance our sales force through co-marketing efforts and offer greater speed and efficiency of implementation capabilities and related services to our customers. We also engage in a variety of traditional and online marketing activities designed to provide sales support and build brand recognition and enhance our reputation as an industry leader.

We believe our strong customer relationships are a result of our ability to develop innovative technology and incorporate our deep domain expertise into products that serve mission critical functions in our customers' day-to-day operations. We have over 150 insurance customers, of which approximately 83 have purchased one or more of our SaaS solutions. For customer concentration purposes, customers are assessed two ways: individual entities (customers) and combining customers that are under common control (consolidated entities). We had no single customer that accounted for over 10% of our total revenue in fiscal 2022 or fiscal 2021 but one consolidated entity that represented approximately 11% of our total revenue for fiscal 2020. This consolidated entity is a large multinational corporation that does business with us through multiple subsidiaries.

Key Factors and Trends Affecting Our Results of Operations

Increased focus on the sale of our SaaS solutions and resulting changing revenue mix. A central part of our strategy is to continue to grow our subscription revenue by signing new SaaS customers and increasing sales to our existing SaaS customers. Additionally, over time we also expect to migrate existing term and perpetual license customers to our SaaS solutions. As a result, our software revenue mix will continue to change over time as the portion of license revenue (primarily recognized up-front) decreases and the portion of subscription revenue (recognized monthly) increases, which may make our results in any one period difficult to compare to any other period. For the fiscal years ended August 31, 2022, 2021 and 2020, subscription revenue was 78%, 77% and 71% of software revenue, respectively.

Continued and increased adoption of our solutions by customers. Strong customer relationships are a key driver of our success given the importance of customer references for new sales. Our long-term relationships with existing customers provide us with significant opportunities to reach customer decision-makers and sell our product offerings that address the specific customer's needs, allowing us to recognize incremental sales with lower sales and marketing spend than for a new customer. With the continued launch of new functionality for the *Duck Creek Suite*, we have the opportunity to realize incremental value by selling additional functionality to customers that do not currently utilize our full product portfolio and by encouraging existing term and perpetual license customers to adopt our SaaS solutions. As we demonstrate our value to customers, we believe we will have the opportunity to sell them additional solutions. Moreover, because our products are priced on the basis of the amount of DWP generated by our customers, we expect our revenue will grow as our customers grow their businesses.

Timing of license revenue recognition and changing contract terms. Because our offerings are typically priced based on a customer's DWP, and our business relies on a relatively small number of high-value contracts, the license revenues recognized in any fiscal period in which we sign a term license with a large global carrier may be disproportionally higher than revenues recognized in a period in which we only sign term licenses with smaller carriers. We generally experience lengthy sales cycles because potential customers typically undertake a rigorous pre-purchase decision-making and evaluation process. Additionally, our license revenue may significantly increase in any given period in which a new license contract is signed. In fiscal 2018, we revised our contracting practices and began to sell our term licenses with an initial two-year committed term and optional annual renewals instead of our historical three to six year committed terms. This contracting change has impacted historical period-over-period revenue comparisons. However, because of our revenue mix shift to subscription and since our contracts going forward are expected to have initial two-year committed terms, this change is not expected to have a material impact on the comparability of our results in future periods. Our term license revenue accounted for 9%, 8%, and 8% of software revenue during fiscal 2022, 2021 and 2020, respectively.

Investment in sales and marketing organization. We plan to continue to invest in our sales and marketing efforts to grow our customer base, increase sales of additional functionality to existing customers and encourage carriers who currently operate legacy systems or use one or more of our competitor's applications to adopt our SaaS solutions. We expect to add sales personnel and expand our marketing activities. We also intend to continue to expand our international sales and marketing organization, which we believe will be an important factor in our continued growth. Our sales and marketing expenses totaled $57.5 million, $54.1 million, and $50.3 million in fiscal 2022, 2021 and 2020, respectively. We expect sales and marketing expenses to continue to increase in absolute dollars for the foreseeable future.

Investment in SaaS operations. We will continue to invest in *Duck Creek OnDemand*, including through our new SaaS operations center and continued growth in the number of our cloud and SaaS operations experts, to further our goal of delivering the best experience for our SaaS customers. Personnel related costs of our SaaS operations team is the fastest growing component of our cost of subscription revenue. Our cost of subscription revenue totaled $59.6 million, $47.3 million, and $34.9 million in fiscal 2022, 2021 and 2020.

Investment in technology and research and development efforts. We are committed to continuing to deliver market-leading software to carriers and believe that maintaining our product leadership is critical to driving further revenue growth. As a result, we intend to continue to make significant investments in our research and development efforts to extend the functionality and breadth of our current solutions as well as develop and launch new products and tools to address the evolving needs of the P&C insurance industry. Our research and development expenses totaled $55.4 million, $48.5 million, and $44.1 million in fiscal 2022, 2021 and 2020, respectively. We expect research and development expenses to increase in absolute dollars for the foreseeable future.

Pursuing acquisitions. We have acquired and successfully integrated several businesses complementary to our own to enhance our software and technology capabilities. We intend to continue to pursue targeted acquisitions that further complement our product portfolio or provide us access to new markets. In fiscal 2022 cash consideration for acquisitions was $112.0 million. For fiscal 2021 and 2020, we did not engage in any acquisition activity.

Mix of Professional Services Revenue. Our professional services teams ensure the successful configuration and integration of our solutions, and provide continuous support to our customers. We recognize most of our professional services revenue during initial deployment, and recognize additional revenue for services provided over the lifetime of a customer's use of our software. Over time, a customer's spend on professional services decreases as a percentage of their overall spend with us. In addition, although we plan on increasing our professional services headcount in the long-term, we expect to shift an increasing percentage of implementation work to our network of third-party SIs to better enable us to meet growing market demand. As a result, we expect our overall professional services revenue to increase in absolute dollars due to the growth in the number of our SaaS customers, but to decrease as a percentage of total revenue. For the fiscal 2022, 2021 and 2020, our professional services revenue was $106.3 million, or 35% of total revenue, $98.6 million, 38% of total revenue, and $94.1 million, 44% of total revenue respectively.

COVID-19 Expenses. In March 2020, we implemented various measures in response to the ongoing COVID-19 pandemic to ensure the safety of our employees. Over a two-day period, we shifted 100% of our employee base to work from home and suspended international and domestic travel. This policy remained largely in place throughout fiscal year 2021, with only certain exceptions being made on a case-by-case basis. As a result, our travel-related expenses decreased from fiscal year 2020 to 2021.

Due to the success of our work from home program, we have established a remote-first policy for all employees. Under this policy, employees can work from home but have the option to work out of physical office locations when they would like.

Share-based Compensation. In fiscal 2020, we had a high level of share-based compensation expense that was primarily driven by our IPO. For fiscal 2021 and 2022, share-based compensation decreased due to the normalization of expense commensurate with employees continuing to vest in their awards over requisite service periods.

Components of Results of Operations

Revenue

We generate our revenue from selling subscriptions to our SaaS solutions, licensing our term and perpetual software applications, providing maintenance and support services (primarily software updates, rights to unspecified software upgrades on a when-and-if-available basis and remote support services) to our term and perpetual license customers and providing professional services (primarily related to implementation services) to the extent requested by either our SaaS or term and perpetual license customers. We generally price our SaaS and licenses arrangements based on the amount of a customer's DWP that will be managed by our software solutions and may include volume-based pricing for customers managing a higher amount of DWP with our solutions. Our SaaS and license contracts generally include provisions for additional fees when the amount of the customer's DWP managed by our software solutions exceed agreed-upon caps within defined reporting periods, which are recognized on an as incurred basis. Software revenue is comprised of subscription revenue and revenue from licenses and maintenance and support services. Total revenue is comprised of software revenue plus revenue from our professional services.

Subscription

Our subscription revenue is comprised of fees from customers accessing our *Duck Creek OnDemand* platform and other SaaS solutions. Revenue for a reporting period is generally recognized ratably in proportion to the total contractual DWP, beginning when the service has been made available to the customer. Our subscription revenue accounted for 78%, 77% and 71% of software revenue during fiscal 2022, 2021 and 2020, respectively.

Licenses

On an increasingly limited basis, we sell licenses for our solutions on either a renewable term basis or a perpetual basis. The total contractual consideration allocated to the license is recognized as revenue upon delivery of the software to a customer, assuming all other revenue recognition criteria are satisfied. We sell our term licenses with an initial two-year committed term and optional annual renewals, with the revenue allocated to the initial two-year license period recognized in full upon delivery of the license. We expect volatility across reporting periods for our license revenue due to the timing of license renewals and sales. Our license revenue accounted for 9%, 8% and 8% of software revenue during fiscal 2022, 2021 and 2020.

Maintenance and Support

In connection with our term and perpetual license arrangements, we offer maintenance and support under renewable, fee-based contracts that include unspecified software updates and upgrades released when and if available, software patches and fixes and email and phone support. Our maintenance and support fees are typically priced as a fixed percentage of the associated license fees. We recognize maintenance and support revenue from customers ratably over the committed term of the contract. Substantially all term and perpetual license customers purchase an agreement for maintenance and support. We expect to continue to generate a relatively consistent stream of revenue from the maintenance and support services we provide to our existing license customers. However, we expect revenue from maintenance and support services to decrease as a percentage of software revenue as we continue to deemphasize license sales in favor of our SaaS solutions. Our maintenance and support revenue accounted for 13%, 15% and 20% of software revenue during fiscal 2022, 2021 and 2020, respectively.

Professional Services

We offer professional services, primarily related to implementation of our products, in connection with both our SaaS solutions and software license products. The vast majority of professional services engagements are billed to customers on a time and materials basis and revenue is generally recognized upon delivery of our services. We expect our professional services revenue to grow over time in absolute dollars due to customer growth and an increasing need for implementation services, but decrease as a percentage of total revenue. We believe the rate at which we sell our software will drive a greater need for implementation services that will support both an increase in our professional services revenue and an increase in demand for the services provided by our third-party SIs. Our professional services revenue generates lower gross margins than our software revenue and accounted for 35%, 38% and 44% of our total revenue during fiscal 2022, 2021 and 2020, respectively.

Cost of Revenue

Our cost of revenue has fixed and variable components and depends on the type of revenue earned in each period. Cost of revenue includes amortization expense associated with acquired technology and other operating expenses directly related to the cost of products and services, including depreciation expense. We expect our cost of revenue to increase in absolute dollars as we continue to hire personnel, to provide hosting services, technical support and consulting services to our growing customer base.

Cost of Subscriptions

Our cost of subscription revenue is primarily comprised of cloud infrastructure costs, royalty fees paid to third parties, amortization of acquired technology intangible assets and personnel-related expenses for our SaaS operations teams, including salaries and other direct personnel-related costs.

Cost of Licenses

Our cost of license revenue is primarily comprised of royalty fees paid to third parties and amortization of acquired technology intangible assets.

Cost of Maintenance and Support

Our cost of maintenance and support revenue is comprised of personnel-related expenses for our technical support team, including salaries and other direct personnel-related costs. While we expect the cost of maintenance and support revenue will increase in the near term, it may decrease in the future if we successfully transition our term and perpetual license customers to our SaaS solutions.

Cost of Professional Services

Our cost of professional services revenue is primarily comprised of personnel-related expenses for our professional service employees and contractors, including salaries and other direct personnel-related costs.

Gross Margins

Gross margins have been and will continue to be affected by a variety of factors, including the average sales price of our products and services, DWP volume growth, the mix of revenue between SaaS solutions, software licenses, maintenance and support and professional services and changes in cloud infrastructure and personnel costs. As we transition our product mix to include more SaaS customers, we expect our overall gross margin percentages to decrease in the near term due to our SaaS gross margin percentages being lower than our license gross margin percentages. Over time, we expect gross margins to increase as we onboard additional customers, achieve growth within existing customers and realize greater economies of scale.

Operating Expenses

Research and Development

Our research and development expenses consist primarily of costs incurred for personnel-related expenses for our technical staff, including salaries and other direct personnel-related costs. Additional expenses include consulting and professional fees for third-party development resources. We expect our research and development expenses to increase in absolute dollars for the foreseeable future as we continue to dedicate substantial resources to develop, improve and expand the functionality of our solutions. Costs incurred in the preliminary design and development stages of our SaaS projects are generally expensed as incurred in accordance with FASB ASC 350-40, *Internal-Use Software*. Once a SaaS project has reached the application development stage, certain internal, external, direct and indirect costs may be subject to capitalization. Generally, costs are capitalized until the technology is available for its intended use. Subsequent costs incurred for the development of future upgrades and enhancements, which are expected to result in additional functionality, follow the same protocol for capitalization.

Sales and Marketing Expenses

Our sales and marketing expenses consist primarily of personnel related costs for our sales and marketing functions, including salaries and other direct personnel-related costs. Additional expenses include marketing program costs, including costs related to our Formation conference (held annually, when possible) and amortization of acquired intangible assets related to customer relationships. Due to COVID-19, we did not hold our annual Formation conference in person during fiscal years 2020 or 2021; however, we developed a virtual customer conference model (called vFormation) that allowed us to effectively engage with customers online. While we expect our sales and marketing expenses to increase on an absolute dollar basis in the near term as we continue to increase investments to support our growth, we also anticipate that sales and marketing expenses will remain relatively consistent as a percentage of total revenue.

General and Administrative Expenses

Our general and administrative expenses consist primarily of personnel-related costs for our executive, finance, human resources, information technology and legal functions, including salaries and other direct personnel-related costs. Additional expenses include professional fees, amortization of acquired trademarks, tradenames and domain name intangible assets, insurance and acquisition-related costs. While we expect other general and administrative expense to increase on an absolute dollar basis in the near term as we continue to increase investments to support our growth and as a result of our becoming a public company, we also anticipate that general and administrative expenses will decrease as a percentage of total revenue over time.

Change in Fair Value of Contingent Consideration

Certain of our acquisitions have included a component of contingent consideration to be paid to the sellers if certain performance levels are achieved by the acquired entity over a specific period of time. Contingent consideration is initially recorded at fair value on the acquisition date based, in part, on a range of estimated probabilities for achievement of these performance levels. The fair value is periodically adjusted as actual performance levels become known and updates are made to the estimated probabilities for future performance. A gain or loss is recognized in the income statement for fair value adjustments. As a result of additional acquisitions, it is possible that we will incur gains or losses in the future due to the change in the fair value of contingent consideration.

Other Income (Expense), Net

Other income (expense), net consists primarily of foreign exchange gains and losses resulting from fluctuations in foreign exchange rates on receivables and payables denominated in currencies other than the U.S. dollar.

Interest Income (Expense), Net

Interest expense, net comprise interest expense accrued or paid on our indebtedness, net of interest income earned on our cash and investment balances. We expect interest income (expense) to vary each reporting period depending on the amount of outstanding indebtedness, cash, cash equivalents, and investment balances, and prevailing interest rates.

Provision for Income Taxes

We are subject to taxes in the United States as well as other tax jurisdictions or countries in which we conduct business. Earnings from our non-U.S. activities are subject to local country income tax and may be subject to current U.S. income tax. Due to cumulative losses, we maintain a valuation allowance against our deferred tax assets, except in certain foreign subsidiaries that generate income. We consider all available evidence, both positive and negative, in assessing the extent to which a valuation allowance should be applied against our deferred tax assets. Realization of our U.S. deferred tax assets depends upon future earnings, the timing and amount of which are uncertain.

Results of Operations

Comparison of Fiscal Years Ended August 31, 2022, 2021 and 2020

The following table sets forth our consolidated results of operations for the periods indicated, expressed in total dollar terms and as a percentage of total revenue:

	Year Ended August 31,					
(dollars in thousands)	**2022**		**2021**		**2020**	
		Percent of Total Revenue		**Percent of Total Revenue**		**Percent of Total Revenue**
Revenue						
Subscription	$ 153,535	50 %	$ 125,267	48 %	$ 83,999	40 %
License	17,284	6	12,171	5	9,914	5
Maintenance and support	25,752	9	24,285	9	23,680	11
Professional services	106,346	35	98,627	38	94,079	44
Total revenue	302,917	100	260,350	100	211,672	100
Cost of revenue						
Subscription	59,592	20	47,266	18	34,902	16
License	1,386	—	1,888	1	1,853	1
Maintenance and support	3,676	1	3,410	1	3,338	2
Professional services	63,640	21	57,522	22	57,082	27
Total cost of revenue	128,294	42	110,086	42	97,175	46
Gross margins	174,623	58	150,264	58	114,497	54
Operating expenses						
Research and development	55,359	18	48,549	19	44,052	21
Sales and marketing	57,454	19	54,124	21	50,305	24
General and administrative	67,111	22	62,664	24	48,662	23
Change in fair value of contingent consideration	67	—	293	—	133	—
Total operating expense	179,991	59	165,630	64	143,152	68
Loss from operations	(5,368)	(1)	(15,366)	(6)	(28,655)	(8)
Other income (expense), net	(2,277)	(1)	431	—	641	—
Interest income (expense), net	604	—	(100)	—	(356)	(1)
Loss before income taxes	(7,041)	(2)	(15,035)	(6)	(28,370)	(13)
Provision for income taxes	1,291	—	1,896	1	1,562	1
Net loss	$ (8,332)	(3)%	$ (16,931)	(7)%	$ (29,932)	(14)%

Revenue

Subscription

Fiscal 2022 Compared to Fiscal 2021. Subscription revenue increased $28.3 million, or 23%, in fiscal 2022 versus fiscal 2021 due to a combination of sales to new customers and increased revenue generated from existing customers. This increase includes the full year impact of prior year sales, sales of new services to existing customers and contractual growth.

Fiscal 2021 Compared to Fiscal 2020. Subscription revenue increased $41.3 million, or 49%, in fiscal 2021 versus fiscal 2020 due to a combination of sales to new customers and increased revenue generated from existing customers, which includes full year impact of prior year sales, sales of new services to existing customers and contractual growth.

License

Fiscal 2022 Compared to Fiscal 2021. License revenue increased $5.1 million, or 42%, in fiscal 2022 versus fiscal 2021 primarily due to an increase in new product licenses and license renewals for existing customers.

Fiscal 2021 Compared to Fiscal 2020. License revenue increased $2.3 million, or 23%, in fiscal 2021 versus fiscal 2020 primarily due to an increase in new product licenses and license renewals for existing customers.

Maintenance and Support

Fiscal 2022 Compared to Fiscal 2021. Maintenance and support revenue increased $1.5 million, or 6%, in fiscal 2022 versus fiscal 2021.

Fiscal 2021 Compared to Fiscal2020. Maintenance and support revenue increased $0.6 million, or 3%, in fiscal 2021 versus fiscal 2020 primarily due a decrease in backlog revenue amortization, a contra revenue purchase accounting adjustment.

Professional services

Fiscal 2022 Compared to Fiscal 2021. Professional services revenue increased $7.7 million, or 8%, in fiscal 2022 versus fiscal 2021 primarily due to growth of our existing software customer base and new customer implementations.

Fiscal 2021 Compared to Fiscal 2020. Professional services revenue increased $4.5 million, or 5%, in fiscal 2021 versus fiscal *2020* primarily due to growth of our existing software customer base and new customer implementations.

Cost of Revenue

Fiscal 2022 Compared to Fiscal 2021. Cost of revenue increased $18.2 million, or 17%, in fiscal 2022 versus fiscal 2021 primarily due to the increase in cost of subscription and cost of professional services.

Fiscal 2021 Compared to Fiscal 2020. Cost of revenue increased $12.9 million, or 13%, in fiscal 2020 versus fiscal 2020 primarily due to the increase in cost of subscription and cost of professional services.

Cost of Subscriptions

Fiscal 2022 Compared to Fiscal 2021. Cost of subscription revenue increased $12.3 million, or 26%, in fiscal 2022 versus fiscal 2021 primarily due to an increase in SaaS customers, and is primarily comprised of a $6.8 million increase in hosting costs, a $4.0 million increase in payroll and related costs as we added employees to build out the SaaS operations team, and a $1.3 million increase in computer hardware and software costs. These increases were offset by a $1.2 million decrease in professional services fees.

Fiscal 2021 Compared to Fiscal 2020. Cost of subscription revenue increased $12.4 million, or 35%,, in fiscal 2021 versus fiscal 2020 primarily due to an increase in SaaS customers, and is primarily comprised of a $4.9 million increase in hosting costs, a $4.3 million increase in payroll and related costs as we added employees to build out the SaaS operations team, a $1.4 million increase in amortization expense associated with capitalized internal-use software costs, a $1.3 million increase in professional service fees, and a $1.0 million increase in computer hardware and software costs. These increases were offset by a $0.4 million decrease in recruiting expenses and a $0.2 million decrease in contingent labor.

Cost of License

Fiscal 2022 Compared to Fiscal 2021. Cost of license revenue remained consistent with prior year.

Fiscal 2021 Compared to Fiscal 2020. Cost of license revenue increased 2%, in fiscal 2021 versus fiscal 2020 primarily due to an increase in royalties paid to third-parties resulting from an increase in license revenue.

Cost of Maintenance and Support

Fiscal 2022 Compared to Fiscal 2021. Cost of maintenance and support revenue remained consistent with prior year.

Fiscal 2021 Compared to Fiscal 2020. Cost of maintenance and support revenue increased 2% in fiscal 2021 versus fiscal *2020* primarily due to an increase in personnel-related costs supporting our term and perpetual license customers.

Cost of Professional Services

Fiscal 2022 Compared to Fiscal 2021. Cost of professional services revenue increased $6.1 million, or 11%, in fiscal 2022 versus fiscal 2021 primarily due to a $5.5 million increase in salaries and other payroll related costs resulting from increased professional services headcount.

Fiscal 2021 Compared to Fiscal 2020. Cost of professional services revenue increased $0.4 million, or 1%, in fiscal 2021 versus fiscal *2020* primarily due to a $4.6 million increase in salaries and other payroll related costs resulting from increased professional services headcount, partially offset by a $1.4 million decrease in travel and entertainment expenses and a $0.8 million decrease in contingent labor. Share-based compensation decreased $2.0 million in fiscal 2021 versus fiscal 2020

Gross Margins

Fiscal 2022 Compared to Fiscal 2021. Gross margins increased $24.4 million, or 16%, in fiscal 2022 versus fiscal 2021, primarily due to a $15.9 million increase in subscription gross margin and a $1.6 million increase in professional services margin, an increase of $5.6 million in license gross margin and a $1.2 million increase in maintenance and support gross margin. Our gross margin percentage remained consistent at 58% in fiscal 2021 and fiscal 2022.

Fiscal 2021 Compared to Fiscal 2020. Gross margins increased $35.8 million, or 31%, in fiscal 2021 versus fiscal *2020*, primarily due to a $28.9 million increase in subscription gross margin and a $4.1 million increase in professional services margin, an increase of $2.2 million in license gross margin and a $0.5 million increase in maintenance and support gross margin. Our gross margin percentage increased from 54% in fiscal 2020 to 58% in fiscal 2021 due to increases in gross margin percentages across all our revenue categories.

Operating Expenses

Research and Development Expense

Fiscal 2022 Compared to Fiscal 2021. Research and development expense increased $6.8 million, or 14%, in fiscal 2022 versus fiscal 2021 primarily due to a $4.0 million increase in salaries and salary-related costs from increased headcount, a $0.9 million increase in contingent labor, and a $0.6 million increase in hosting costs. These increases were partially offset by a $0.9 million increase in capitalized internal use software costs.

Fiscal 2021 Compared to Fiscal 2020. Research and development expense increased $4.5 million, or 10%, in fiscal 2021 versus fiscal 2020 primarily due to a $4.3 million increase in in salaries and salary-related costs from increased headcount, a $2.0 million decrease in capitalized internal-use software costs, a $0.5 million increase in hosting costs, and a $0.2 million increase in contingent labor. These increases were partially offset by a $2.1 million decrease in share-based compensation expense, a $0.3 million reduction in travel and entertainment expenses after the start of COVID-19 pandemic, and a $0.1 million reduction in recruiting expenses.

Sales and Marketing Expense

Fiscal 2022 Compared to Fiscal 2021. Sales and marketing expense increased $3.3 million, or 6%, in fiscal 2022 versus fiscal 2021 primarily due to a $2.0 million increase in salaries and payroll-related costs from increased headcount, a $1.1 million increase in travel and entertainment expenses, and a $0.9 million increase in recruiting expenses, partially offset by a $2.1 million decrease in share-based compensation.

Fiscal 2021 Compared to Fiscal 2020. Sales and marketing expense increased $3.8 million, or 8%, in fiscal 2021 versus fiscal 2020 primarily due to a $5.2 million increase in salaries and payroll-related costs from increased headcount, a $1.7 million increase in marketing programs, and a $0.6 million increase in sales commissions, partially offset by a $2.4 million decrease in share-based compensation, and a $1.3 million decrease in travel and entertainment expenses.

General and Administrative Expense

Fiscal 2022 Compared to Fiscal 2021. General and administrative expense increased $4.4 million, or 7%, in fiscal 2022 versus fiscal 2021 primarily due to a $2.5 million increase in bad debt expense, a $1.2 million increase in computer software costs, and a $0.6 million increase in professional services fees. These increases were offset by a $2.6 million impairment loss expense taken in fiscal 2021 not present in fiscal 2022.

Fiscal 2021 Compared to Fiscal 2020. General and administrative expense increased $14.0 million, or 29%, in fiscal 2021 versus fiscal 2020 primarily due to $5.5 million increase in insurance expense as a result of becoming a public company, a $4.1 million increase in professional fees, due in part to costs associated with becoming a public company, a $2.4 million increase in salaries and payroll-related costs, $1.5 million in legal and audit fees related to the secondary offering of our common stock in the first quarter, a $1.0 million increase in bad debt expense, a $0.4 million increase in computer software costs, a $0.4 million increase in facilities cost mainly due to an increase in property taxes, a $0.4 million increase in recruiting expenses, a $0.3 million increase in business taxes and licenses, and a $0.2 million increase in contingent labor. These increases were offset by a $1.8 million decrease in share-based compensation, and a $0.4 million reduction in travel and entertainment expenses.

Change in Fair Value of Contingent Consideration

Fiscal 2022 Compared to Fiscal 2021. In fiscal 2022, a $0.1 million loss was recognized primarily due to the change in fair value of contingent consideration as well as present value calculations related to the contingent consideration estimates of the acquisition of Outline Systems LLC, a provider of P&C distribution channel management software and longstanding member of our partner ecosystem (now *Duck Creek Distribution Management*). The final contingent consideration was paid in full during the first quarter of fiscal year 2022.

Fiscal 2021 Compared to Fiscal 2020. In fiscal 2021, a $0.2 million loss was recognized primarily due to the change in fair value of contingent consideration as well as present value calculations related to the contingent consideration estimates of the acquisition of Outline Systems LLC, a provider of P&C distribution channel management software and longstanding member of our partner ecosystem (now *Duck Creek Distribution Management*).

Other Income (Expense), Net

Fiscal 2022 Compared to Fiscal 2021. Other income (expense) decreased $2.7 million in fiscal 2022 versus fiscal 2021, primarily due to fluctuations in foreign exchange rates on receivables and payables denominated in currencies other than the U.S. dollar.

Fiscal 2021 Compared to Fiscal 2020. Other income (expense) grew $0.2 million in fiscal 2021 versus fiscal *2020*, primarily due to fluctuations in foreign exchange rates on receivables and payables denominated in currencies other than the U.S. dollar, partially offset by a $0.5 million gain on the derecognition of a lease liability resulting from a sublease transaction.

Interest Income (Expense), Net

Fiscal 2022 Compared to Fiscal 2021. Interest income (expense), net increased $0.7 million in fiscal 2022 versus fiscal 2021 primarily due to interest income received from cash, cash equivalents, and short-term investments.

Fiscal 2021 Compared to Fiscal 2020. Interest expense, net decreased $0.3 million in fiscal 2021 versus fiscal *2020* primarily due to no outstanding net revolver borrowings during fiscal 2021. In fiscal 2021, interest expense consisted of fees paid to maintain the revolving credit facility. These expenses were partially offset by interest income received from cash, cash equivalents, and short-term investments, not present in prior year.

Provision for Income Taxes

Fiscal 2022 Compared to Fiscal 2021. Provision for income taxes decreased by $0.6 million in fiscal 2022 versus fiscal 2021 primarily due to due foreign research and development tax credits and the impact of goodwill amortized for tax.

Fiscal 2021 Compared to Fiscal 2020. Provision for income taxes increased by $0.3 million in fiscal 2021 versus fiscal 2020 primarily due to the impact of higher profits in foreign subsidiaries..

Liquidity and Capital Resources

To date, we have financed our operations primarily through cash provided by operating activities, our revolving credit facility and proceeds from our IPO. As of August 31, 2022, we had $155.3 million in cash and cash equivalents, $117.8 million of short-term investments, no outstanding borrowings under our revolving credit facility and $0.7 million of outstanding letters of credit. We had $44.3 million of principal borrowing availability under our revolving credit facility. While we believe our existing cash and cash equivalents, together with cash provided by operating activities and amounts available under our revolving credit facility, will be sufficient to meet our operating working capital and capital expenditure requirements over at least the next twelve months. Our future cash requirements will depend on many factors, including our rate of revenue growth, the expansion of our sales and marketing activities, the timing and extent of our spending to support our research and development efforts, investments in cloud infrastructure and operating costs, and expansion into other markets. At any given time, we may be evaluating one or more potential investments in, or acquisitions of, businesses or technologies, which could require us to seek additional equity or debt financing. Additional sources of liquidity and capital resources, including equity or debt financing, may not be available on terms favorable to us or at all.

As of August 31, 2022, $56.9 million of cash was held by our foreign subsidiaries. We currently do not anticipate a need to repatriate these funds to finance our U.S. operations and it is our intention to indefinitely reinvest these funds outside the United States.

Our material cash requirements from known contractual and other obligations relate to minimum operating lease obligations and purchase commitments on non-cancelable agreements for cloud infrastructure services with Microsoft and software subscriptions with third-party vendors. Minimum operating lease obligations as of August 31, 2022 are as follows: 2023 - $5.4 million; 2024 - $5.5 million; 2025 - $5.1 million; 2026 - $3.8 million; and subsequent years - $5.0 million. Minimum purchase commitments as of August 31, 2022 are as follows: 2023 - $3.3 million; and 2024 - $1.2 million.

Summary of Cash Flows for the Fiscal Years Ended August 31, 2022, 2021 and 2020

The following summarizes our cash flows from operating, investing and financing activities for the periods indicated:

	Year Ended August 31,		
($ in thousands)	**2022**	**2021**	**2020**
Net cash provided by (used in) operating activities	$ 10,727	$ (8,686)	$ 25,725
Net cash used in investing activities	(35,639)	(194,211)	(6,747)
Net cash (used in) provided by financing activities	(5,480)	(1,324)	358,901
Net (decrease) increase in cash and cash equivalents	(30,392)	(204,221)	377,879
Cash and cash equivalents – beginning of period	185,657	389,878	11,999
Cash and cash equivalents – end of period	$ 155,265	$ 185,657	$ 389,878

Operating Activities

We had $10.7 million of cash provided by operating activities during fiscal 2022. This amount resulted from net income of $8.3 million, adjusted for non-cash items of $34.0 million and $14.9 million of cash used in working capital activities. Cash used in working capital activities during fiscal 2022 was primarily due to an increase in unbilled revenue of $5.4 million, a decrease in deferred revenue of $4.6 million, and a decrease in accrued liabilities of $2.6 million, partially offset by a decrease in accounts receivable of $3.6 million.

We used $8.7 million of cash from operating activities during fiscal 2021, resulting from our net loss, after excluding the impact of non-cash charges, of $20.8 million and $29.5 million of cash used in working capital activities. Cash used in working capital activities during fiscal 2021 was primarily due to an increase in accounts receivable and unbilled revenue of $10.8 million, a decrease in accrued liabilities of $3.2 million, and $9.2 million of accrued Phantom Unit settlements.

We generated $25.7 million of cash from operating activities during fiscal 2020, primarily resulting from our net income, after excluding the impact of non-cash charges, of $14.6 million and $11.2 million of cash generated by working capital activities. Cash generated by working capital activities during fiscal 2020 was primarily due to an increase in accrued liabilities with third-party software vendors, accrued annual bonuses and accrued Phantom Unit settlements.

Non-cash charges in all periods include depreciation and amortization, share-based compensation expense, deferred taxes, and change in fair value of contingent earn-out liability.

Investing Activities

Net cash used in investing activities consists of business acquisitions, purchases of property and equipment, capitalization of internal use software costs, and investments in short-term, government-backed securities.

We used $35.6 million of cash in investing activities during fiscal 2022. This use of cash was primarily driven by the payment for business acquisition of $107.0 million offset by the maturity of our short-term investments net of purchases.

We used $194.2 million of cash in investing activities during fiscal 2021. During the second quarter of 2021, we invested $287.9 million of the cash received in the IPO in short-term, government-backed securities. Of these investments, $95.9 million matured during the year ended August 31, 2021. Such investing and maturities did not occur in the prior year period. In the year ended August 31, 2021, we spent approximately $1.4 million on purchases of property, plant and equipment, compared to $3.9 million during the year ended August 31, 2020. Additionally, our capitalized costs for internal use software were $1.9 million less during the year ended August 31, 2021 compared to the prior year period.

We used $6.7 million of cash in investing activities during fiscal 2020 primarily related to purchases of property and equipment of $3.9 million and capitalized internal use-software costs of $2.9 million.

Financing Activities

We used $5.5 million in financing activities during fiscal 2022. Cash used in financing activities during the year primarily related to $3.9 million in payments of contingent earnout liability, and $1.0 million to repurchase treasury stock in settlement of employee tax liabilities resulting from the vesting of restricted stock awards.

We used $1.3 million in financing activities during fiscal 2021, compared to cash generated from financing activities of $358.9 million during the year ended August 31, 2020. Cash used in financing activities during the year ended August 31, 2021 primarily related to $3.7 million in payments of deferred IPO costs, $3.1 million to repurchase treasury stock in settlement of employee tax liabilities resulting from the vesting of Restricted Stock Awards, a $1.9 million payment of contingent earnout liability and a $0.2 million payment for deferred Class E units offering costs. These payments were offset by net proceeds of $3.5 million from the February 2021 follow-on offering and $4.1 million received from stock option exercises.

We generated $358.9 million of cash in financing activities during fiscal 2020, primarily related to the net proceeds of $433.7 million from the IPO and $438.8 million from the issuance of Class E units prior to the IPO, partially offset by $505.8 million in redemption costs. Other financing activities consisted of borrowings under our revolving credit facility of $5.0 million offset by payments of principal on our revolving credit facility of $9.0 million.

Other Financial Data and Key Metrics

Non-GAAP Financial Measures

We report our financial results in accordance with accounting principles generally accepted in the United States (“GAAP”); however, management believes evaluating the Company’s ongoing operating results may be enhanced if investors have additional non-GAAP financial measures. Specifically, management reviews Adjusted EBITDA, Free Cash Flow, Non-GAAP Gross Margin, Non-GAAP Income from Operations and Non-GAAP Net Income, each of which is a non-GAAP financial measure, to manage our business, make planning decisions, evaluate our performance and allocate resources and, for the reasons described below, considers them to be effective indicators, for both management and investors, of our financial performance over time.

We believe that Adjusted EBITDA, Free Cash Flow, Non-GAAP Gross Margin, Non-GAAP Income from Operations and Non-GAAP Net Income help investors and analysts in comparing our results across reporting periods on a consistent basis by excluding items that we do not believe are indicative of our core operating performance. These non-GAAP financial measures have limitations as analytical tools and should not be considered in isolation from, or as a substitute for, the analysis of other GAAP financial measures, including net income and cash flows from operating activities. For example, with respect to Adjusted EBITDA, some of these limitations include:

- it does not reflect our cash expenditures, or future requirements, for capital expenditures or contractual commitments;
- it does not reflect changes in, or cash requirements for, our working capital needs;
- it does not reflect interest expense, or the cash requirements necessary to service interest or principal payments, on our indebtedness;
- it does not reflect our income tax expense or the cash requirements to pay our taxes; and
- although depreciation and amortization are non-cash charges, the assets being depreciated and amortized will often have to be replaced in the future, and Adjusted EBITDA does not reflect any cash requirements for such replacements.

These non-GAAP financial measures are not universally consistent calculations, limiting their usefulness as comparative measures. Other companies may calculate similarly titled financial measures differently than we do or may not calculate them at all. Additionally, these non-GAAP financial measures are not measurements of financial performance or liquidity under GAAP. In order to facilitate a clear understanding of our consolidated historical operating results, you should examine our non-GAAP financial measures in conjunction with our historical combined financial statements and notes thereto included elsewhere in this prospectus.

The non-GAAP financial measures and principal metrics we use in managing our business are set forth below:

Adjusted EBITDA. We define Adjusted EBITDA as net loss before interest income (expense), net; other income (expense), net; provision for income taxes; depreciation of property and equipment; amortization of intangible assets; share-based compensation expense; acquisition-related expenses; and the change in fair value of contingent consideration. We believe Adjusted EBITDA provides investors and other users of our financial information consistency and comparability with our past financial performance and facilitates period-to-period comparisons of operations. Adjusted EBITDA was $24.2 million, $16.9 million, and $11.7 million for fiscal 2022, 2021 and 2020, respectively. A reconciliation of Adjusted EBITDA to net loss, the most directly comparable GAAP financial measure, is presented below for the periods indicated.

	Year Ended August 31,		
($ in thousands)	**2022**	**2021**	**2020**
GAAP Net Loss	$ (8,332)	$ (16,931)	$ (29,932)
Provision for income taxes	1,291	1,896	1,562
Other (income) expense	2,277	(431)	(641)
Interest expense, net	(604)	100	356
Depreciation of property and equipment	2,646	3,136	3,143
Amortization of intangible assets	16,340	15,954	15,975
Share-based compensation expense	9,524	12,877	21,108
Change in fair value of contingent earnout liability	67	293	133
Acquisition-related expenses	1,038	—	—
Adjusted EBITDA	$ 24,247	$ 16,894	$ 11,704
Adjusted EBITDA as a percent of total revenue	8%	6%	6%

Free Cash Flow. We define Free Cash Flow as net cash provided by operating activities, less purchases of property and equipment and capitalized internal use software plus acquisition-related payments. We consider Free Cash Flow to be an important measure in facilitating period-to-period comparisons of liquidity. We use Free Cash Flow in conjunction with traditional GAAP measures as part of our overall assessment of liquidity. Free Cash Flow was $8.0 million, $(11.0) million, and $18.9 million for fiscal 2022, 2021 and 2020, respectively. A reconciliation of Free Cash Flow to net cash provided by operating activities, the most directly comparable GAAP financial measure, is presented below for the periods indicated.

($ in thousands)	Year Ended August 31, 2022	2021	2020
Net cash (used in) provided by operating activities	$ 10,727	$ (8,686)	$ 25,725
Purchases of property and equipment	(1,283)	(1,355)	(3,854)
Capitalized internal-use software	(1,844)	(926)	(2,893)
Acquisition-related payments	358	—	—
Free Cash Flow	$ 7,958	$ (10,967)	$ 18,978

Non-GAAP Gross Margin. We define Non-GAAP Gross Margin as GAAP gross margin before the portion of share-based compensation expense; amortization of intangible assets; and amortization of capitalized internal-use software that is included in cost of revenue. We believe Non-GAAP Gross Margin provides investors and other users of our financial information consistency and comparability with our past financial performance and facilitates period-to-period comparisons of gross margin. Non-GAAP Gross Margin was $183.1 million, $160.2 million, and $125.1 million for fiscal 2022, 2021 and 2020, respectively. A reconciliation of Non-GAAP Gross Margin to gross margin, the most directly comparable GAAP financial measure, is presented below for the periods indicated.

($ in thousands)	Year Ended August 31, 2022	2021	2020
GAAP Gross Margin	$ 174,623	$ 150,264	$ 114,497
Share-based compensation expense	1,447	3,166	5,125
Amortization of intangible assets	4,627	4,724	4,746
Amortization of capitalized internal-use software	2,355	2,040	703
Non-GAAP Gross Margin	$ 183,052	$ 160,194	$ 125,071

Non-GAAP Income from Operations. We define Non-GAAP Income from Operations as GAAP loss from operations before share-based compensation expense; amortization of intangible assets; acquisition-related expenses and the change in fair value of contingent consideration. We believe Non-GAAP Income from Operations provides investors and other users of our financial information consistency and comparability with our past financial performance and facilitates period-to-period comparisons of operations. Non-GAAP Income from Operations was $21.6 million, $13.8 million, and $8.6 million for fiscal 2022, 2021and 2020, respectively. A reconciliation of Non-GAAP Income from Operations to loss from operations, the most directly comparable GAAP financial measure, is presented below for the periods indicated.

($ in thousands)	Year Ended August 31, 2022	2021	2020
GAAP Loss from Operations	$ (5,368)	$ (15,366)	$ (28,655)
Share-based compensation expense	9,524	12,877	21,108
Amortization of intangible assets	16,340	15,954	15,975
Change in fair value of contingent earnout liability	67	293	133
Acquisition-related expense	1,038	—	—
Non-GAAP Income from Operations	$ 21,601	$ 13,758	$ 8,561

Non-GAAP Net Income. We define Non-GAAP Net Income as GAAP net loss before amortization of share-based compensation expense; amortization of intangible assets; acquisition-related expenses; and change in fair value of contingent earnout liability. We believe Non-GAAP Net Income provides investors and other users of our financial information consistency and comparability with our past financial performance and facilitates period-to-period comparisons of operations. Non-GAAP Net Income was $15.1 million, $10.7 million, and $6.7 million for fiscal 2022, 2021 and 2020, respectively. A reconciliation of Non-GAAP Net Income to net loss, the most directly comparable GAAP financial measure, is presented below for the periods indicated.

	Year Ended August 31,				
($ in thousands)	**2022**	**Per Share**	**2021**	**Per Share**	**2020**
GAAP Net Loss [1]	$ (8,332)	$ (0.06)	$ (16,931)	$ (0.13)	$ (29,932)
Add: GAAP tax provision	1,291		1,896		$ 1,562
GAAP pre-tax loss	(7,041)		(15,035)		(28,370)
Share-based compensation expense	9,524		12,877		21,108
Amortization of intangible assets	16,340		15,954		15,975
Change in fair value of contingent earnout liability	67		293		133
Acquisition-related expenses	1,038		—		—
Non-GAAP pre-tax income	19,928		14,089		8,846
Non-GAAP tax provision applied at a 24% tax rate [2]	4,783		3,381		2,123
Non-GAAP Net Income [1]	$ 15,145	$ 0.11	$ 10,708	$ 0.08	$ 6,723
Shares used in computing Non-GAAP income per share amounts:[1]					
GAAP weighted-average shares - basic and diluted	132,205,020		131,114,791		—
Non-GAAP dilutive shares excluded from GAAP loss per share calculation	1,273,972		3,022,585		—
Non-GAAP weighted-average shares - diluted	133,478,992		134,137,376		—

1) Prior to the Company's initial public offering in August 2020, there were no shares of common stock outstanding, and the membership structure of the Company consisted of limited partnership units. GAAP and Non-GAAP earnings per share for fiscal year 2020 has not been presented as it resulted in a value that would not be meaningful to the users of these financial statements because it only reflected the operations of the Company for the 17-day period subsequent to the IPO.

2) Our GAAP tax provision is primarily related to state taxes and income taxes in profitable foreign jurisdictions. We maintain a full valuation allowance against our deferred tax assets in the U.S. For purposes of determining our Non-GAAP Net Income, we have applied a tax rate of 24% which represents our estimated effective tax rate once we are profitable on a GAAP basis.

Key Business Metrics

SaaS Net Dollar Retention Rate. We calculate SaaS Net Dollar Retention Rate by annualizing SaaS revenue recorded in the last month of the measurement period for those revenue-generating customers in place throughout the entire measurement period (the latest twelve-month period). We divide the result by annualized SaaS revenue from the month that is immediately prior to the beginning of the measurement period, for all revenue-generating customers in place at the beginning of the measurement period. Our SaaS Net Dollar Retention Rate was 108%, 120%, and 117% for fiscal 2022, 2021, and 2020, respectively. Our calculation excludes one existing contract for a service no longer offered on a standalone basis by the Company. We believe SaaS Net Dollar Retention Rate is an important metric for the Company because, in addition to providing a measure of retention, it indicates our ability to grow revenue within existing customer accounts. SaaS Net Dollar Retention Rate is included in a set of metrics that we calculate quarterly to review with management as well as periodically with members of our board of directors.

SaaS Annual Recurring Revenue ("SaaS ARR"). We calculate SaaS ARR by annualizing the recurring subscription revenue recognized in the last month of the measurement period (the latest twelve-month period). Our

SaaS ARR was $169.3 million, $135.3 million, and $95.6 million, for fiscal 2022, 2021, and 2020, respectively. Our calculation excludes one existing contract for a service no longer offered on a standalone basis by the Company. We believe SaaS ARR provides important information about our ability to acquire new subscription SaaS customers and to maintain and expand our relationship with existing subscription SaaS customers. SaaS ARR is included in a set of metrics that we calculate quarterly to review with management as well as periodically with members of our board of directors.

Indebtedness

On October 4, 2016, we entered into a credit agreement with a group of lenders for a revolving credit facility with a maximum borrowing capacity of $30.0 million that was originally scheduled to mature on October 4, 2019. On October 2, 2019, we amended certain of the financial covenants and extended our credit agreement for two years to a maturity date of October 2, 2021. On October 22, 2021, the Company executed an amended and restated credit agreement for its revolving credit facility with a five-year term, increasing its maximum borrowing capacity from $30.0 million to $45.0 million. Our revolving credit facility is guaranteed by the Company and certain of its domestic subsidiaries and secured by substantially all of our tangible and intangible assets. Interest accrues on our revolving credit facility at a variable rate based upon the type of borrowing made by us. Loans under our revolving credit facility bear interest at a rate of LIBOR (as administered by ICE Benchmark Administration) plus an applicable margin, or incur interest at the higher of: (i) the Prime Rate, (2) the Fed Funds Rate plus 0.5%, or (3) LIBOR plus 1.0%, plus an applicable margin. The applicable margin ranges from 1.0% to 2.0% depending on the interest rate basis and type of borrowing elected (eurocurrency rate loan, base rate loan, swing rate loan or letter of credit). In addition to interest on our revolving credit facility, we pay a commitment fee of 0.5% per annum on the unused portion of our revolving credit facility, as well as customary letter of credit fees. Repayment of any amounts borrowed are not required until maturity of our revolving credit facility, however we may repay any amounts borrowed at any time, without premium or penalty. The Company is required to meet certain financial and nonfinancial covenants under the terms of the revolving credit facility. These covenants include limits on the creation of liens, limits on making certain investments, limits on incurring additional indebtedness, and maintaining a leverage ratio at or below a maximum level. The Company was in compliance with these financial and nonfinancial covenants as of August 31, 2022. We incurred $0.7 million of costs directly related to obtaining our revolving credit facility which have been recorded as deferred financing fees and are amortized to legal expense on a straight-line basis over the term of our revolving credit facility. Letters of credit of $0.7 million and $0.9 million were outstanding under the revolving credit facility at August 31, 2022 and August 31, 2021, respectively. Apart from the letters of credit, we did not have any borrowings outstanding on our revolving credit facility as of August 31, 2022 and 2021.

Off Balance Sheet Arrangements

We did not have any off-balance sheet arrangements, as defined in Regulation S-K, Item 303(a)(4)(ii) promulgated by the SEC under the Securities Act, in fiscal 2022, 2021 or 2020.

Critical Accounting Policies and Estimates

The process of preparing our financial statements in conformity with U.S. GAAP requires the use of estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses. These estimates and judgments are based on historical experience, future expectations and other factors and assumptions we believe to be reasonable under the circumstances. The most significant estimates and judgments are reviewed on an ongoing basis and are revised when necessary. Actual amounts may differ from these estimates and judgments. A summary of our significant accounting policies is contained in Note 2 of our audited consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

Revenue Recognition

Revenue recognition requires judgment and the use of estimates, especially in evaluating non-standard terms related to subscription arrangements with customers and their effect on recorded revenue.

We derive revenues primarily from four sources:

- selling subscriptions to our SaaS solutions;
- licensing our on-premise software applications;
- providing maintenance and support services; and
- providing professional services.

The estimates and assumptions requiring significant judgment under our revenue recognition policy in accordance with FASB ASC 606 are as follows:

Determine the transaction price

The transaction price is determined based on the consideration to which we expect to be entitled in exchange for transferring products or services to the customer. Variable consideration is included in the transaction price if, in our judgment, it is probable that no significant future reversal of cumulative revenue under the contract will occur. The sale of our software and SaaS solutions may include variable consideration relating to changes in a customer's DWP managed by these solutions. We estimate variable consideration based on historical DWP usage to the extent that a significant revenue reversal is not probable to occur.

In instances where the timing of revenue recognition differs from the timing of invoicing, we have determined that our contracts generally do not include a significant financing component. The primary purpose of our invoicing terms is to provide customers with simplified and predictable ways of purchasing our products and services, not to receive financing from customers or to provide customers with financing.

Allocate the transaction price to the performance obligations in the contract

If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation based on a relative standalone selling price ("SSP").

The determination of SSP involves judgment. It is typically based on the observable prices of the promised goods or services charged when sold separately to customers, which are determined using contractually stated prices. In instances where SSP is not directly observable, we determine SSP based on our overall pricing objectives, taking into consideration market conditions and other factors, including customer size and geography. The various products and services comprising contracts with multiple performance obligations are typically capable of being distinct and accounted for as separate performance obligations. We allocate revenue to each of the performance obligations included in a contract with multiple performance obligations at the inception of the contract.

The SSP for perpetual or term-based software licenses sold in contracts with multiple performance obligations is determined using the residual approach. We utilize the residual approach because the selling prices for software licenses is highly variable and a SSP is generally not discernible from past transactions or other observable evidence. Periodically, we evaluate whether the use of the residual approach remains appropriate for performance obligations associated with software licenses when sold as part of contracts with multiple performance obligations. As a result, if the SSP analysis illustrates that the selling prices for software licenses are no longer highly variable, we utilize the relative allocation method for such arrangements.

Business Combinations

We record tangible and intangible assets acquired and liabilities assumed in business combinations under the purchase method of accounting. Amounts paid for each acquisition are allocated to the asset acquired and liabilities assumed based on their fair value at the date of acquisition. We then allocate the purchase price in excess of net tangible assets acquired to identifiable intangible assets based on detailed valuations that use information and assumptions provided by management. We allocate any excess purchase price over the fair value of the net tangible and intangible assets acquired and liabilities assumed to goodwill.

Significant management judgments and assumptions are required in determining the fair value of acquired assets and liabilities, particularly acquired intangible assets. The valuation of purchased intangible assets is based upon estimates of the future performance and cash flows from the acquired business. Each asset is measured at fair value from the perspective of a market participant. Critical estimates in valuing purchased technology and customer relationships include future cash flows that we expect to generate from the acquired assets. If the subsequent actual results and updated projections of the underlying business activity change compared with the assumptions and projections used to develop these values, we could experience impairment charges which could be material.

Recent Accounting Pronouncements

A summary of recent accounting pronouncements and our assessment of any expected impact of these pronouncements if known is included in Note 2 of our audited consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

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

We are exposed to market risks in the ordinary course of our business, including interest rate and foreign currency exchange risks.

Interest Rate Risk

As of August 31, 2022, our cash equivalents balance included U.S. treasury bills and no restricted cash, and we had no outstanding indebtedness under our revolving credit facility.

To date, we have not been exposed, nor do we anticipate being exposed, to material risks due to changes in interest rates. A hypothetical 10% change in interest rates during any of the periods presented would not have had a material impact on our consolidated financial statements.

Foreign Currency Exchange Risk

Our reporting currency is the U.S. dollar, and the functional currency of each of our subsidiaries, except one, is the U.S. dollar. Gains or losses due to transactions in foreign currencies are included in “Other Income (Expense)” in our consolidated statements of operations. We have not engaged in the hedging of foreign currency transactions to date, although we may choose to do so in the future. We do not believe that a 10% increase or decrease in the relative value of the U.S. dollar to other currencies would have a material effect on operating results. Historically, we have not hedged any foreign currency exposures.

Item 8. Financial Statements and Supplementary Data.

Duck Creek Technologies, Inc.
Index to Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Duck Creek Technologies, Inc.:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of Duck Creek Technologies, Inc. and subsidiaries (the Company) as of August 31, 2022 and 2021, the related consolidated statements of operations, comprehensive loss, stockholders' equity/redeemable partners' interest and partners' capital, and cash flows for each of the years in the three-year period ended August 31, 2022, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of August 31, 2022, 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 consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of August 31, 2022 and 2021, and the results of its operations and its cash flows for each of the years in the three-year period ended August 31, 2022, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of August 31, 2022 based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

The Company acquired Effisoft SAS and Prima Solutions Belgium SA during 2022, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of August 31, 2022, Effisoft SAS and Prima Solutions Belgium SA's internal control over financial reporting associated with total assets of $14.8 million and total revenues of $2.1 million included in the consolidated financial statements of the Company as of and for the year ended August 31, 2022. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of Effisoft SAS and Prima Solutions Belgium SA.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (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 audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements 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. 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 audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters 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 matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Evaluation of revenue contracts with non-standard terms

As discussed in Note 2 to the consolidated financial statements, revenue was derived from sales of hosted software services under subscription arrangements, software licenses, maintenance and support services, and professional services. The Company recognized total revenue of $302.9 million for the year ended August 31, 2022. Of this amount, $153.5 million related to sales of subscription arrangements. Subscription arrangements generally have terms of three to seven years and are generally payable on a monthly basis over the contract term. Revenue for subscription arrangements is recognized ratably using contractual direct written premium as the measure of progress.

We identified the sufficiency of audit evidence over revenue contracts with non-standard terms related to subscription arrangements as a critical audit matter. This matter required a higher degree of auditor judgment to determine the nature and extent of procedures to perform over non-standard terms in contracts and amendments.

The following are the primary procedures we performed to address this critical audit matter. We applied auditor judgment to determine the nature and extent of procedures to be performed over subscription arrangement revenue. We evaluated the design and tested the operating effectiveness of an internal control over the Company's subscription arrangement revenue process relating to the identification of non-standard contract terms. For a sample of revenue transactions, we developed expectations of the revenue recognized based on the terms in contracts and amendments and compared them to the amounts recorded by the Company. We also evaluated the overall sufficiency of the audit evidence over revenue by assessing the results of our procedures.

Evaluation of the acquisition date fair value of certain acquired intangible assets

As discussed in Notes 2 and 3 to the consolidated financial statements, on July 12, 2022, the Company consummated a business combination for total consideration of $112.0 million. In connection with the business combination, the Company recorded various intangible assets, which included customer relationship and developed technology intangible assets with an acquisition date fair value of $26.5 million and $7.7 million, respectively.

We identified the evaluation of the acquisition date fair value of the customer relationship and developed technology intangible assets as a critical audit matter. Subjective and complex auditor judgment was required to evaluate key assumptions used to value these acquired intangible assets. Specifically, the key assumptions included projected revenue growth rates for the customer relationship and the developed technology intangible asset. Changes to these assumptions could have had a significant impact on the fair value of such assets. In addition, valuation professionals with specialized skills and knowledge were needed to assist in the evaluation of the projected revenue growth rates.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's business combinations process, including controls related to the development of the projected revenue assumptions used in the Company's valuations. We evaluated the projected revenue used by the Company by (1) comparing to historical results of the acquired entity and publicly available information for peer companies, (2) inquiring of individuals outside of the accounting department about projected revenue and the process used to develop the projections, and (3) comparing the Company's historical projected revenue to actual revenue to evaluate the Company's ability to forecast. We involved valuation professionals with specialized skills and knowledge, who assisted in evaluating the reasonableness of the projected revenue growth rate by comparing them to certain comparable companies, and industry and macro-economic trend data.

/s/ KPMG LLP

We have served as the Company's auditor since 2017.

Boston, Massachusetts
October 28, 2022

DUCK CREEK TECHNOLOGIES, INC. AND SUBSIDIARIES

Consolidated Balance Sheets

(In thousands, except share information)

	August 31, 2022	August 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	$ 155,265	$ 185,657
Short-term investments	117,823	191,981
Accounts receivable, net	29,939	34,629
Unbilled revenue, net	31,696	24,423
Prepaid expenses and other current assets	13,355	14,381
Total current assets	348,078	451,071
Property and equipment, net	14,076	14,305
Operating lease assets	16,502	17,798
Goodwill	355,498	272,455
Intangible assets, net	82,888	65,359
Deferred tax assets	1,132	2,331
Unbilled revenue, net of current portion	209	1,401
Other assets	21,293	19,413
Total assets	$ 839,676	$ 844,133
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 2,577	$ 2,070
Accrued liabilities	41,747	46,437
Contingent earnout liability	—	5,462
Lease liability	4,552	4,110
Deferred revenue, net	29,618	29,577
Total current liabilities	78,494	87,656
Lease liability, net of current portion	17,877	21,273
Deferred income taxes	8,654	634
Deferred revenue, net of current portion	39	—
Other long-term liabilities	2,207	3,832
Total liabilities	107,271	113,395
Commitments and contingencies		
Stockholders' equity		
Common stock, 135,370,279 shares issued and 132,686,867 shares outstanding at August 31, 2022, 134,625,379 shares issued and 132,000,317 shares outstanding at August 31, 2021, 300,000,000 shares authorized at August 31, 2022 and August 31, 2021, par value $0.01 per share	1,353	1,346
Preferred stock, 0 shares outstanding, 50,000,000 shares authorized at August 31, 2022 and August 31, 2021, par value $0.01 per share	—	—
Treasury stock, common shares at cost; 2,684,316 shares at August 31, 2022 and 2,625,062 shares at August 31, 2021	(68,784)	(67,764)
Accumulated deficit	(49,597)	(41,265)
Accumulated other comprehensive (loss) income	(393)	64
Additional paid in capital	849,826	838,357
Total stockholders' equity	732,405	730,738
Total liabilities and stockholders' equity	$ 839,676	$ 844,133

See accompanying notes to consolidated financial statements.

DUCK CREEK TECHNOLOGIES, INC. AND SUBSIDIARIES

Consolidated Statements of Operations

(In thousands, except per share information)

	Year Ended August 31, 2022	2021	2020
Revenue:			
Subscription	$ 153,535	$ 125,267	$ 83,999
License	17,284	12,171	9,914
Maintenance and support	25,752	24,285	23,680
Professional services	106,346	98,627	94,079
Total revenue	302,917	260,350	211,672
Cost of revenue:			
Subscription	59,592	47,266	34,902
License	1,386	1,888	1,853
Maintenance and support	3,676	3,410	3,338
Professional services	63,640	57,522	57,082
Total cost of revenue	128,294	110,086	97,175
Gross margin	174,623	150,264	114,497
Operating expenses:			
Research and development	55,359	48,549	44,052
Sales and marketing	57,454	54,124	50,305
General and administrative	67,111	62,664	48,662
Change in fair value of contingent consideration	67	293	133
Total operating expenses	179,991	165,630	143,152
Loss from operations	(5,368)	(15,366)	(28,655)
Other (expense) income, net	(2,277)	431	641
Interest expense, net	604	(100)	(356)
Loss before income taxes	(7,041)	(15,035)	(28,370)
Provision for income taxes	1,291	1,896	1,562
Net loss	$ (8,332)	$ (16,931)	$ (29,932)
Net loss per share information[1]			
Net loss per share of common stock, basic and diluted	$ (0.06)	$ (0.13)	$ (0.19)
Weighted average shares of common stock, basic and diluted	132,205,020	131,114,791	130,702,511

1) Net loss per share information for fiscal 2020 represents the net loss per share of common stock outstanding for the period from August 14, 2020 through August 31, 2020, the period following the Reorganization Transactions and Duck Creek Technologies, Inc.'s initial public offering described in Note 1—Nature of Business. See Note 9—Net Loss Per Share for additional details.

See accompanying notes to consolidated financial statements.

DUCK CREEK TECHNOLOGIES, INC. AND SUBSIDIARIES

Consolidated Statements of Comprehensive Loss

(In thousands)

	Year Ended August 31,		
	2022	2021	2020
Net loss	$ (8,332)	$ (16,931)	$ (29,932)
Other comprehensive loss:			
Foreign currency translation adjustments	(799)	—	—
Unrealized (losses) gains on available-for-sale securities	342	64	—
Total other comprehensive loss	(457)	64	—
Comprehensive loss	$ (8,789)	$ (16,867)	$ (29,932)

DUCK CREEK TECHNOLOGIES, INC. AND SUBSIDIARIES

Consolidated Statements of Stockholders' Equity/Redeemable Partners' Interest and Partners' Capital
(In thousands, except share information)

	Total redeemable partners' interest and partners' capital	Common stock		Treasury Stock		Additional paid-in capital	Accumulated Other Comprehensive Income	Accumulated deficit	Non-controlling interests	Total stockholders' equity
		Shares	Amount	Shares	Amount					
Balance at August 31, 2019	$ 389,066	—	$ —	—	$ —	$ —	$ —	$ —	$ —	$ 389,066
Class E Units issued, net of issuance costs	438,648	—	—	—	—	—	—	—	—	438,648
Class A Units redeemed prior to the Reorganization Transactions	(238,800)	—	—	—	—	—	—	—	—	(238,800)
Class B Units redeemed prior to the Reorganization Transactions	(159,200)	—	—	—	—	—	—	—	—	(159,200)
Share-based compensation expense prior to Reorganization Transactions	1,766	—	—	—	—	—	—	—	—	1,766
Net loss prior to Reorganization Transactions	(5,598)	—	—	—	—	—	—	—	—	(5,598)
Reorganization Transactions:										
Exchange of LP interests for common stock and initial effect of Reorganization Transactions on non-controlling interest	(425,882)	115,996,833	1,160	—	—	425,556	—	—	(834)	—
Initial Public Offering Transactions:										
Issuance of common stock for IPO net of underwriting discounts and offering costs	—	17,250,000	173	—	—	429,067	—	—	—	429,240
Purchase of common stock from Apax	—	—	—	2,555,556	(64,688)	—	—	—	—	(64,688)
Purchase of non-controlling interests in Operating Partnership from Accenture and RBW	—	—	—	—	—	(43,959)	—	—	834	(43,125)
Issuance of common stock upon RSA's vesting	—	22,468	—	—	—	—	—	—	—	—
Share based compensation expense subsequent to Reorganization Transactions	—	—	—	—	—	10,782	—	—	—	10,782
Net loss subsequent to Reorganization Transactions	—	—	—	—	—	—	—	(24,334)	—	(24,334)
Balance at August 31, 2020	$ —	133,269,301	$ 1,333	2,555,556	$ (64,688)	$ 821,446	$ —	$ (24,334)	$ —	$ 733,757
Net loss	—	—	—	—	—	—	—	(16,931)		(16,931)
Proceeds from follow-on offering, net of issuance costs	—	90,000	1	—	—	3,452	—	—	—	3,453
Repurchase of common stock	—	—	—	69,506	(3,076)	—	—	—	—	(3,076)
Share-based compensation expense	—	—	—	—	—	9,406	—	—	—	9,406
Issuance of common stock upon exercise of stock options	—	150,559	1	—	—	4,064	—	—	—	4,065
Vesting of restricted stock awards	—	1,115,519	11	—	—	(11)	—	—	—	—
Unrealized gain on available-for-sale securities	—	—	—	—	—	—	64	—	—	64
Balance at August 31, 2021	$ —	134,625,379	$ 1,346	2,625,062	$ (67,764)	$ 838,357	$ 64	$ (41,265)	$ —	$ 730,738
Net income	—	—	—	—	—	—	—	(8,332)	—	(8,332)
Repurchase of common stock	—	—	—	59,254	(1,020)	—	—	—	—	(1,020)
Share-based compensation expense	—	—	—	—	—	11,344	—	—	—	11,344
Issuance of common stock upon exercise of stock options	—	4,897	—	—	—	132	—	—	—	132
Vesting of restricted stock awards	—	740,003	7	—	—	(7)	—	—	—	—
Other comprehensive loss	—	—	—	—	—	—	(457)	—	—	(457)
Balance at August 31, 2022	$ —	135,370,279	1,353	2,684,316	$ (68,784)	$ 849,826	$ (393)	$ (49,597)	$ —	$ 732,405

See accompanying notes to consolidated financial statements.

DUCK CREEK TECHNOLOGIES, INC. AND SUBSIDIARIES

Consolidated Statements of Cash Flows

(In thousands)

	Year Ended August 31, 2022	2021	2020
Operating activities:			
Net loss	$ (8,332)	$ (16,931)	$ (29,932)
Adjustments to reconcile net loss to cash used in operating activities:			
Depreciation of property and equipment	2,646	3,136	3,143
Amortization of capitalized software	2,355	2,040	703
Amortization of intangible assets	16,516	16,328	17,070
Amortization of deferred financing fees	128	114	134
Impairment of right of use asset	—	1,883	1,660
Impairment of leasehold improvements	—	702	1,132
Share-based compensation expense	9,524	12,877	21,108
Change in fair value of contingent earnout liability	67	293	133
Payment of contingent earnout liability in excess of acquisition date fair value	(1,650)	—	
Changes to allowance for credit losses	3,566	1,105	97
Deferred taxes	814	(781)	(690)
Other non-cash items	—	12	—
Changes in operating assets and liabilities			
Accounts receivable	3,637	(6,585)	(3,796)
Unbilled revenue	(5,392)	(4,216)	1,730
Prepaid expenses and other current assets	848	(2,310)	(6,300)
Other assets	(1,309)	(3,110)	(5,764)
Accounts payable	(978)	1,561	(181)
Accrued liabilities	(2,673)	(3,230)	16,393
Deferred revenue	(4,554)	(1,199)	6,614
Operating leases	(1,657)	(1,477)	132
Cash settlement of vested phantom stock	(1,077)	(9,243)	—
Other long-term liabilities	(1,752)	345	2,339
Net cash provided by (used in) operating activities	10,727	(8,686)	25,725
Investing activities:			
Purchase of short-term investments	(245,204)	(287,912)	—
Maturities of short-term investments	319,639	95,982	—
Payments for business acquisitions, net of cash acquired	(106,947)	—	—
Capitalized internal-use software	(1,844)	(926)	(2,893)
Purchase of property and equipment	(1,283)	(1,355)	(3,854)
Net cash used in investing activities	(35,639)	(194,211)	(6,747)
Financing activities:			
Proceeds from IPO	—	—	433,657
Proceeds from follow-on offering, net of issuance costs	—	3,452	—
Payment of deferred IPO costs	—	(3,650)	—
Proceeds from issuance of Class E Units, net of issuance costs	—	—	438,840
Payment of deferred Class E offering costs	—	(192)	—
Payment on redemption of Class A and Class B Units	—	—	(398,000)
Purchase of non-controlling interest	—	—	(43,125)
Purchase of treasury stock	(1,020)	(3,076)	(64,688)
Proceeds from stock option exercises	132	4,065	—
Payments of contingent earnout liability	(3,879)	(1,923)	(3,555)
Proceeds from revolving credit facility	—	—	5,000
Payments on revolving credit facility	—	—	(9,000)
Payment of deferred financing costs	(713)	—	(228)
Net cash (used in) provided by financing activities	(5,480)	(1,324)	358,901
Net (decrease) increase in cash and cash equivalents	(30,392)	(204,221)	377,879
Cash and cash equivalents – beginning of period	185,657	389,878	11,999
Cash and cash equivalents – end of period	$ 155,265	$ 185,657	$ 389,878
Supplemental disclosure of other cash flow information:			
Cash paid for income taxes	2,050	3,105	2,006
Cash paid for interest	—	—	269
Purchases of property and equipment recorded in accounts payable and accrued liabilities	238	210	227
Fair value of contingent consideration	—	5,529	7,452
Deferred IPO costs in accounts payable and accrued liabilities	—	—	3,650
Deferred Class E offering costs in accrued expenses	—	—	192

See accompanying notes to consolidated financial statements.

(1) Nature of Business

Duck Creek Technologies, Inc (the Company) is a provider of Software-as-a-Service (SaaS) core systems to the property and casualty (P&C) insurance industry, through *Duck Creek OnDemand*. Products offered include *Duck Creek Policy, Duck Creek Billing, Duck Creek Claims, Duck Creek Rating, Duck Creek Insights, Duck Creek Distribution Management, Duck Creek Reinsurance Management, Duck Creek Anywhere Managed Integrations, and Duck Creek Industry Content*. The Company also provides its products via perpetual and term license arrangements to customers with legacy systems that have yet to upgrade to SaaS.

The Company was formed as a Delaware corporation on November 15, 2019, with no operating assets or operations for the purpose of facilitating an initial public offering (the IPO) and related Reorganization Transactions (as described below) in order to carry on the business of Disco Topco Holdings (Cayman), L.P. and its subsidiaries (the Operating Partnership). Unless otherwise indicated or the context otherwise requires, references to "Duck Creek Technologies" and the "Company" refer to (a) prior to the consummation of the Reorganization Transactions and the IPO, to Disco Topco Holdings (Cayman), L.P., and its subsidiaries, and (b) after the consummation of the Reorganization Transactions and IPO to Duck Creek Technologies, Inc, and its subsidiaries.

The Company's headquarters are located in Boston, Massachusetts. The Company also has sales offices in the United Kingdom, Spain, France and Australia, as well as a service center located in India.

Initial Public Offering

On August 14, 2020, the Company completed its IPO. It sold 17,250,000 shares of common stock (including shares issued pursuant to the exercise in full of the underwriters' option to purchase additional shares) at a public offering price of $27.00 per share for net proceeds of $429.2 million, after deducting underwriting discounts, commissions, and estimated offering expenses.

The Company used (i) $43.1 million of the net proceeds received from the IPO to redeem all of the outstanding LP Units of the Operating Partnership retained by Accenture plc (Accenture) and RBW Investment GmbH & Co. (RBW), after giving effect to the contributions that were part of the Reorganization Transactions, at a redemption price per LP Unit equal to the IPO price less underwriting discounts and commissions, (ii) $64.7 million of the net proceeds received from the IPO to repurchase from Apax Partners L.P. (Apax) a portion of the shares in the Company received by Apax in the Reorg Merger (as described below) at a repurchase price per share equal to the IPO price less underwriting discounts and commissions, and (iii) $6.7 million of net proceeds received from the IPO to cash settle outstanding equity awards of certain international employees.

Reorganization Transactions

The Company and the Operating Partnership completed a series of transactions concurrently with or immediately following the completion of the IPO (Reorganization Transactions) which are described below:

- The Company adopted an amended and restated certification of incorporation that authorized, immediately prior to the IPO, one class of common stock and one class of preferred stock.
- Apax contributed the entity that held all of Apax's equity interests in the Operating Partnership and all of Apax's interest in the general partner of the Operating Partnership (General Partner) to a newly-formed Cayman company (the Reorg Subsidiary) in exchange for shares in the Reorg Subsidiary.

- Accenture contributed to the Company, directly or indirectly, (i) a portion of its equity interests in the Operating Partnership and (ii) all of its interest in the General Partner in exchange for newly-issued common stock in the Company.
- Certain members of management contributed to the Company, directly or indirectly, all of their respective equity interests in the Operating Partnership in exchange for (i) newly-issued common stock in the Company or (ii) restricted common stock in the Company and options to acquire common stock in the Company with an exercise price equal to the fair market value on the date of grant.
- All other investors in the Operating Partnership (excluding Apax, Accenture, and RBW) contributed to the Company, directly or indirectly, all of their equity interests in the Operating Partnership in exchange for newly-issued common stock in the Company.
- The Company contributed a portion of the net proceeds received from the IPO to the Operating Partnership and the Operating Partnership redeemed the outstanding LP Units of the Operating Partnership owned by Accenture and RBW that were not contributed to the Company.
- Immediately following the completion of the IPO, (i) Apax exchanged all of its shares in the Reorg Subsidiary for newly-issued common stock in the Company and (ii) the Reorg Subsidiary merged with and into the Company (and subsequently ceased existence) (collectively, the Reorg Merger).
- Following these transactions and the subsequent redemption of the outstanding LP Units owned by Accenture and RBW that were not contributed to the Company, the Company indirectly owns all of the LP Units of the Operating Partnership and all interest in the General Partner.

The Reorganization Transactions are considered transactions between entities under common control. As a result, Disco Topco Holdings (Cayman), L.P., is considered the predecessor of Duck Creek Technologies, Inc. for accounting purposes. This has resulted in the presentation of Disco Topco Holdings (Cayman), L.P.'s historical consolidated financial statements as the historical consolidated financial statements of Duck Creek Technologies, Inc. Duck Creek Technologies, Inc., has accounted for Disco Topco Holdings (Cayman), L.P.'s assets and liabilities at their historical carrying amounts.

(2) Summary of Significant Accounting Policies

The accompanying consolidated financial statements reflect the application of significant accounting policies as described below.

(a) Basis of Presentation

The consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America (GAAP) set by the Financial Accounting Standards Board (FASB). References to GAAP issued by the FASB in these notes are to the FASB Accounting Standards Codification (FASB ASC).

(b) Recently Adopted Accounting Pronouncements

In October 2021, the FASB issued ASU No. 2021-08, *Accounting for Contract Assets and Contract Liabilities from Contracts with Customers* (ASU 2021-08). This new guidance requires that an entity (acquirer) recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with Topic 606. At the acquisition date, an acquirer should account for the related revenue contracts in accordance with Topic 606 as if it had originated the contracts. ASU 2021-08 will be effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. The provisions of ASU 2021-08 should be applied prospectively to business combinations occurring on or after the effective date of the amendments. The adoption of this new standard did not have a material impact on the Company's consolidated financial statements.

(c) Principles of Consolidation

The accompanying consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

(d) Fiscal Year

The Company's fiscal year ends on August 31 of each calendar year.

(e) Use of Estimates

The preparation of the consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. Estimates are used when accounting for certain items such as valuation of goodwill and intangible assets, the useful lives of intangible assets, share-based compensation, standalone selling prices in transactions with customers that include multiple performance obligations, assets acquired and liabilities assumed in business combinations, contingent earnout liabilities, and capitalized software development costs.

Although the Company regularly assesses these estimates, actual results could differ materially from these estimates. Changes in estimates are recorded in the period in which they become known. The Company bases its estimates on historical experience and various other assumptions that it believes to be reasonable under the circumstances. Actual results could differ from management's estimates if past experience or other assumptions are not substantially accurate.

(f) Foreign Currency

The determination of the functional currency of subsidiaries is based on the subsidiaries' financial and operational environment. Gains and losses from foreign currency translation related to entities whose functional currency is not our reporting currency are credited or charged to accumulated other comprehensive income included in stockholders' equity in the consolidated balance sheets. In all instances, foreign currency transaction and remeasurement gains or losses are credited or charged to the consolidated statements of operations as incurred as a component of other income (expense), net. There were net foreign currency transaction and remeasurement losses of $2.7 million in fiscal 2022. The net foreign currency transaction and remeasurement losses were immaterial in fiscal 2021 and 2020.

(g) Revenue Recognition

The Company derives its revenues primarily from the following four sources, which represent performance obligations of the Company:

- *Sales of hosted software services (SaaS) under subscription arrangements*.
- *Sales of software licenses*. Software license revenue is derived from the sale of perpetual and term license arrangements to customers.
- *Sales of maintenance and support services*. Maintenance and support services include telephone and web-based support, software updates, and rights to unspecified software upgrades on a when-and-if-available basis during the maintenance term.
- *Sales of professional services*. Professional services primarily relate to the implementation of the Company's SaaS offerings and software licenses.

In accordance with ASC 606, the Company recognizes revenue from the identified performance obligations, as determined in its contracts with customers, as control is transferred to the customer in an amount that reflects the consideration the Company expects to receive. The Company applies the following five steps to achieve the core principle of ASC 606:

(1) Identify the contract with the customer

The Company considers the terms and conditions of the contracts and its customary business practices in identifying contracts under ASC 606. The Company has determined that a contract with a customer exists when the contract is approved, each party's rights regarding the services to be transferred can be identified, payment terms for the services can be identified, the customer has the ability and intent to pay, and the contract has commercial substance. The Company applies judgment in determining the customer's ability and intent to pay, which is based on a variety of factors, including the customer's historical payment experience or, in the case of a new customer, credit and financial information pertaining to the customer.

(2) Identify the performance obligations in the contract Performance obligations promised in a contract are identified based on the products and services that will be transferred to the customer that are both capable of being distinct, whereby the customer can benefit from the product or service either on its own or together with other resources that are readily available from third parties or from the Company, and are distinct in the context of the contract, whereby the transfer of the products or services is separately identifiable from other promises in the contract.

(3) Determine the transaction price

The transaction price is determined based on the consideration to which the Company expects to be entitled in exchange for transferring products or services to the customer. Variable consideration is included in the transaction price if, in the Company's judgment, it is probable that no significant future reversal of cumulative revenue under the contract will occur. The sale of the Company's software and SaaS products may include variable consideration relating to changes in a customer's direct written premium (DWP) managed by these solutions. The Company estimates variable consideration based on historical DWP usage to the extent that a significant revenue reversal is not probable to occur.

In instances where the timing of revenue recognition differs from the timing of invoicing, the Company has determined that contracts generally do not include a significant financing component. The primary purpose of the Company's invoicing terms is to provide customers with simplified and predictable ways of purchasing our products and services, not to receive financing from customers or to provide customers with financing.

(4) Allocate the transaction price to the performance obligations in the contract

If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation based on a relative standalone selling price (SSP).

(5) Recognize revenue when (or as) the Company satisfies a performance obligation

Revenue is recognized at the time the related performance obligation is satisfied by transferring the promised product or service to a customer. Revenue is recognized when control of the products or services are transferred to the Company's customers, in an amount that reflects the consideration that it expects to receive in exchange for those products or services.

The Company records revenue net of applicable sales taxes collected. Sales taxes collected from customers are recorded as part of accounts payable in the accompanying consolidated balance sheets and are remitted to state and local taxing jurisdictions based on the filing requirements of each jurisdiction.

Disaggregation of Revenue

The Company provides disaggregation of revenue based on product and service type on the consolidated statements of operations as it believes these categories best depict how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors.

(amounts in thousands except unit and per unit and share and per share amounts)

The following table summarizes revenue by geographic area based on the location of the contracting entity, regardless of where the products or services are used, for the years ended August 31,2022, 2021 and 2020:

	Twelve Months Ended August 31,		
	2022	**2021**	**2020**
United States	$ 279,365	$ 238,912	$ 200,373
All other	23,552	21,438	11,299
Total revenue	$ 302,917	$ 260,350	$ 211,672

Subscription Arrangements

The transaction price allocated to subscription arrangements is recognized as revenue over time throughout the term of the contract as the services are provided on a continuous basis, beginning after the SaaS environment is provisioned and made available to customers. The Company's subscription arrangements generally have terms of three to seven years and are generally payable on a monthly basis over the term of the subscription arrangement, which is typically noncancelable. Revenue is recognized ratably using contractual DWP as the measure of progress.

Software Licenses

The Company has concluded that its software licenses provide the customer with the right to functional intellectual property (IP), and are distinct performance obligations as the customer can benefit from the software licenses on their own. The transaction price allocated to perpetual and term license arrangements is recognized as revenue at a point in time when control is transferred to the customer, which generally occurs at the time of delivery. Perpetual software license fees are generally payable when the contract is executed. Term license fees are generally payable in advance on an annual basis over the term of the license arrangement, which is typically noncancelable. Perpetual and term license arrangements are delivered before related services are provided, including maintenance and support services, and are functional without such services.

Maintenance and Support Services

Maintenance and support contracts associated with the Company's software licenses entitle customers to receive technical support and software updates, on a when and if available basis, during the term of the maintenance and support contract. Technical support and software updates are considered distinct from the related software licenses but accounted for as a single performance obligation as they each constitute a series of distinct services that are substantially the same and have the same pattern of transfer to the customer. The transaction price allocated to software maintenance and support is recognized as revenue over time on a straight-line basis over the term of the maintenance and support contract. Maintenance and support fees are generally payable in advance on a monthly, quarterly, or annual basis over the term of the maintenance and support contract. Maintenance and support contracts are priced as a percentage of the associated software license.

Professional Services

The Company's professional services revenue is primarily comprised of implementation services provided to customers. The majority of professional services engagements are billed to customers on a time and materials basis. The Company has determined that professional services provided to customers represent distinct performance obligations. These services may be provided on a stand-alone basis or bundled with other performance obligations, including subscription arrangements, software licenses, and maintenance and support services. The transaction price allocated to these performance obligations is recognized as revenue over time as the services are performed. In those limited instances where professional services arrangements are sold on a fixed price basis, revenue is recognized over time using an input measure of time incurred to date relative to total estimated time to be incurred at project completion. Professional services arrangements are generally invoiced monthly in arrears.

The Company records reimbursable out-of-pocket expenses associated with professional services contracts in both revenue and cost of revenue.

Contracts with Multiple Performance Obligations

The Company’s contracts with customers can include multiple performance obligations, where the transaction price is allocated to each identified performance obligation based on their relative SSP. The Company’s contracts may also grant the customer an option to acquire additional products or services, which the Company assesses to determine whether or not any discount on the products or services is in excess of levels normally available to similar customers and, if so, accounts for the optional product or service as an additional performance obligation.

The Company typically determines SSP based on the observable prices of the promised goods or services charged when sold separately to customers, which are determined using contractually stated prices. In instances where SSP is not directly observable, the Company determines SSP based on its overall pricing objectives, taking into consideration market conditions and other factors, including customer size and geography. The various products and services comprising contracts with multiple performance obligations are typically capable of being distinct and accounted for as separate performance obligations. The Company allocates revenue to each of the performance obligations included in a contract with multiple performance obligations at the inception of the contract.

The SSP for perpetual or term license arrangements sold in contracts with multiple performance obligations is determined using the residual approach. The Company utilizes the residual approach because the selling prices for software licenses is highly variable and a SSP is not discernible from past transactions or other observable evidence. Periodically, the Company evaluates whether the use of the residual approach remains appropriate for performance obligations associated with software licenses when sold as part of contracts with multiple performance obligations. As a result, if the SSP analysis illustrates that the selling prices for software licenses are no longer highly variable, the Company will utilize the relative allocation method for such arrangements.

Contract Modifications

The Company may enter into amendments to previously executed contracts which constitute a contract modification. The effect of a contract modification on the transaction price when the remaining products or services are not distinct is recognized to revenue on a cumulative catch-up basis. Contract modifications are accounted for prospectively when it results in the promise to deliver additional products and services that are distinct and the increase in the price of the contract corresponds to the SSP of the additional products or services.

Contract Balances

Contract assets and liabilities are presented net at the contract level for each reporting period. Contract assets consist of unbilled revenue and represent amounts under contracts with customers where revenue recognized exceeds the amount billed to the customer. Contract liabilities consist of deferred revenue and include billings and payments received in advance of revenue recognized. Deferred revenue that will be realized during the succeeding 12-month period is recorded as current, and the remaining balance is recorded as noncurrent.

For the fiscal year ended August 31, 2022, 2021 and 2020 $21.9 million, $18.0 million and $15.2 million, respectively, of the Company’s unbilled revenue balance that was included in the corresponding unbilled revenue balance at the beginning of the period presented became an unconditional right to payment and was billed to its customers.

The Company also recognized revenue that was included in the corresponding deferred revenue balance at the beginning of the period presented. For the fiscal year ended August 31, 2022, 2021 and 2020, the Company recognized revenue of $28.0 million, $28.3 million and $22.8 million, respectively, that was included in the corresponding deferred revenue balance at the beginning of the period presented.

Transaction Price Allocated to the Remaining Performance Obligations

Remaining performance obligations represent contracted revenue that has not yet been recognized, which includes deferred revenue and amounts that will be invoiced and recognized as revenue in future periods. As of August 31, 2022, approximately $500.8 million of revenue is expected to be recognized from remaining performance obligations in the amount of approximately $165.0 million in fiscal 2023 and approximately $335.8 million thereafter. The estimated revenues do not include unexercised contract renewals. The Company applied the practical expedient in accordance with ASC 606 to exclude amounts related to professional services contracts that are on a time and materials basis.

(h) Cost of Revenue

Cost of revenue is primarily composed of personnel costs and costs of external resources used in the delivery of professional services to customers, including software configuration, integration services, and training; customer support activities; third-party costs incurred related to hosting the Company's software for its customers; amortization of acquired technology intangible assets; depreciation expense; and cost of software production and license fees paid to third parties.

(i) Contract Costs

The Company allocates the incremental costs to obtain a contract among the identified performance obligations that are included in the contract, on a relative basis to the allocated transaction price.

Incremental costs primarily comprise of commissions paid to the Company's sales representatives. Any such costs that are allocated to performance obligations that are recognized at a point in time are expensed at that time. Any such costs that are allocated to performance obligations that are recognized over time are capitalized in the period in which they are incurred and amortized on a straight-line basis over the expected period of benefit of the associated contract. The Company determined to use the straight-line basis as the expected benefit will be realized uniformly over the amortization period. Commissions paid relating to contract renewals are deferred and amortized on a straight-line basis over the related renewal period. As a practical expedient, the Company recognizes the incremental costs of obtaining a contract as an expense when incurred if the amortization period of the asset that it otherwise would have recognized is one year or less.

The Company has estimated that the typical period of benefit for its contracts is 8 years, based on both qualitative and quantitative factors, including product lifecycle attributes and historical customer retention data. The Company assesses deferred contract costs for impairment on an annual basis. Amortization expense associated with deferred contract costs are recorded within selling, general, and administrative expenses on the accompanying consolidated statements of operations. Deferred contract costs are included within other assets on the Company's consolidated balance sheets.

The Company does not incur up-front, direct fulfillment-related costs of a nature required to be capitalized and amortized.

(j) Cash, Cash Equivalents and Restricted Cash

The Company considers all highly liquid investments with original maturities of 90 days or less at the time of purchase to be cash equivalents. At August 31, 2022, the Company had $88.3 million of cash equivalents and no restricted cash. At August 31, 2021, the Company did not have any cash equivalents and or restricted cash.

(k) Accounts Receivable and Payment Terms

Accounts receivable are stated at the amount management expects to collect from outstanding balances and are recorded when the right to consideration becomes unconditional. Payment terms and conditions vary by contract and the product and service being provided. Invoices are typically due within 30 days of receipt by a customer.

(l) Allowance for Credit Losses

The Company maintains allowances for expected credit losses for its accounts receivable and unbilled revenue balances. The allowances reflect the expected collectability of the balance and is based on historical losses, customer-specific factors, and current economic conditions. Credit losses are recorded in general and administrative expense while billing and other revenue adjustments are recorded as a reduction to revenue. The allowance for accounts receivable was $3.0 million and $1.4 million as of August 31, 2022 and 2021, respectively, and a $1.9 million allowance for unbilled revenue as of August 31, 2022. There was no allowance for unbilled revenue as of August 31, 2021.

(m) Investments

At the time of purchase, the Company determines the appropriate classification of investments based upon its intent with regard to such investments. All of the Company's investments are classified as available-for-sale. The Company classifies investments as short-term when their remaining contractual maturities are one year or less from the balance sheet date, and as long-term when the investment has a remaining contractual maturity of more than one year from the balance sheet date. The Company records investments at fair value with unrealized gains and losses recorded as a component of other comprehensive income (loss).

(amounts in thousands except unit and per unit and share and per share amounts)

(n) Unbilled Revenue, net

Revenues recognized in excess of the amounts invoiced to customers are classified as unbilled revenues in the accompanying consolidated balance sheets. The Company expects to invoice all of the unbilled revenue recorded at each reporting period over the term of the contract which ranges from two to six years.

Unbilled revenue, net as of August 31, 2022 and August 31, 2021, consisted of the following:

	August 31, 2022	August 31, 2021
Unbilled revenue	$ 33,640	$ 24,423
Allowance for credit losses	(1,944)	—
Unbilled revenue, net	$ 31,696	$ 24,423

The following table presents changes to the allowance for credit losses during the year ended August 31, 2022:

Allowance, August 31, 2021	$ —
Net changes to credit losses	(1,944)
Write-offs, recoveries and billings	—
Allowance, August 31, 2022	$ (1,944)

(o) Concentration of Credit Risk

The Company maintains its cash in bank deposit accounts, which at times, may exceed federally insured limits. The Company has not experienced any losses in such accounts. The Company believes it is not exposed to any significant credit risk on cash and cash equivalents. Concentration of credit risk, with respect to cash and cash equivalents, is limited because the Company places its investments in highly rated institutions.

The Company is potentially subject to concentration of credit risk primarily through its accounts receivable. The Company performs ongoing credit evaluations of its customers and maintains allowances for potential credit losses which, when realized, have been within the range of management's expectations. The Company generally does not require collateral. Credit risk on accounts receivables is minimized as a result of the large and diverse nature of the Company's customer base.

The Company generates revenues in the capacity of a subcontractor to Accenture, a related party (as described in Note 19). Services provided to Accenture accounted for less than 1%, less than 1%, and 1% of the Company's revenue for the years ended August 31, 2022, 2021 and 2020, respectively.

(amounts in thousands except unit and per unit and share and per share amounts)

For customer concentration purposes, customers are assessed two ways: individual entities (customers) and combining customers that are under common control (consolidated entities). The Company had no single customer that accounted for over 10% of total revenue in fiscal 2022 or 2021 but one consolidated entity that represented approximately 11% of total revenue in 2020.

As of August 31, 2022, one customer accounted for greater than 13% of accounts receivable. As of August 31, 2021, one customer accounted for approximately 11% of accounts receivable. No other customer individually accounted for more than 10% of the Company's accounts receivable for these reporting periods.

As of August 31, 2022, one customer accounted for approximately 16% of unbilled revenue. As of August 31, 2021, one customer accounted for approximately 11% of unbilled revenue. No other customer individually accounted for more than 10% of the Company's unbilled revenue for these reporting periods.

(p) Fair Value of Financial Instruments

Financial instruments consist mainly of cash, cash equivalents, short-term investments, accounts receivable, unbilled revenue and borrowings under the Company's credit facility. The carrying amount of accounts receivable and unbilled revenue is net of an allowance for doubtful accounts, which is based on historical collections and known credit risks, and approximates the fair value of accounts receivable.

(q) Property and Equipment

Property and equipment are recorded at cost and depreciated using the straight-line method over their estimated useful lives as follows:

Computer equipment and purchased software	3 years
Furniture and fixtures	5 years
Office equipment	3 years
Leasehold improvements	Lesser of estimated useful life or life of lease

Expenditures for maintenance and repairs are expensed as incurred. Expenditures for renewals or betterments are capitalized.

(r) Software Development Costs

The Company has evaluated the establishment of technological feasibility of its perpetual and term license arrangements in accordance with FASB ASC 985-20, *Accounting for the Costs of Computer Software to Be Sold, Leased, or Otherwise Marketed*. The Company sells software products in a market that is subject to rapid technological change, new product development, and changing customer needs. Accordingly, the Company has concluded that technological feasibility for most software products is not established until the development stage of the software product is nearly complete. The Company defines technological feasibility as the completion of a working model. The period of time during which costs could be capitalized, from the point of reaching technological feasibility until the time of general software product release, is very short; consequently, the amounts that are capitalized are not material to the Company's financial position or results of operations.

With respect to the Company's SaaS products sold to its customers, costs incurred in the preliminary design and development stages of a project are expensed as incurred in accordance with FASB ASC 350-40, *Internal-Use Software*. Once a project has reached the application development stage, certain internal, external, direct and indirect costs may be subject to capitalization. Generally, costs are capitalized until the technology is available for its intended use. Subsequent costs incurred for the development of future upgrades and enhancements, which are expected to result in additional functionality, follow the same protocol for capitalization. Capitalized software development costs are recorded in property and equipment on the Company's consolidated balance sheets.

Amortization of capitalized computer software development costs is provided on a product-by-product basis using the greater of (a) the amount computed using the ratio that current gross revenue for a product bears to total of current and anticipated future gross revenue for that product or (b) the straight-line method, beginning upon commercial release or available for the products intended use, and continuing over the remaining estimated economic life of the product, typically three years.

(s) Business Combinations

The Company uses its best estimates and assumptions to determine the fair value of tangible and intangible assets acquired and liabilities assumed in a business combination. Goodwill is calculated as the difference between the acquisition-date fair value of the consideration transferred and the fair values assigned to the assets acquired and liabilities assumed. During the measurement period, which may be up to one year from the acquisition date, if new information is obtained about facts and circumstances that existed as of the acquisition date, the Company may record adjustments to the fair value of these assets acquired and liabilities assumed, with a corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the fair value of assets acquired and liabilities assumed, whichever comes first, subsequent adjustments, if any, are recorded to the Company's consolidated statements of operations.

(t) Goodwill

The carrying amount of goodwill is not amortized, but rather tested for impairment annually in June of each fiscal year, or more frequently if events or changes in circumstances indicate that the carrying value of goodwill may not be recoverable. The Company has determined that it is comprised of one reporting unit for purposes of its annual impairment evaluation. The Company has the option to first assess qualitative factors to determine whether it is more likely than not that the fair value of its reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the two-step goodwill impairment test. If the Company determines that it is more likely than not that the fair value of its reporting unit is less than the carrying amount, or opts not to perform a qualitative assessment, then the two-step goodwill impairment test will be performed. The first step, identifying a potential impairment, compares the fair value of the reporting unit with its carrying amount. If the carrying amount exceeds its fair value, the second step will be performed; otherwise, no the second step is not required. The second step, measuring the impairment loss, compares the implied fair value of the reporting unit's goodwill with its carrying amount. Any excess of the goodwill carrying amount over the implied fair value is recognized as an impairment loss, and the carrying value of goodwill is written down to fair value. No impairment losses associated with goodwill impairment have been recorded by the Company to date.

(u) Impairment of Long-Lived Assets

Long-lived assets, such as property and equipment, capitalized software development costs, right-of-use lease assets, and acquired intangible assets subject to amortization, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If circumstances require a long-lived asset or asset group be tested for possible impairment, the Company first compares undiscounted cash flows expected to be generated by that asset or asset group to its carrying amount. If the carrying amount of the long-lived asset or asset group is not recoverable on an undiscounted cash flow basis, an impairment is recognized to the extent that the carrying amount exceeds its fair value. Fair value is determined through various valuation techniques including discounted cash flow models, quoted market values and third-party independent appraisals, as considered necessary. There were no impairments of long-lived assets, including acquired intangible assets, during the year ended August 31, 2022 or 2021. As discussed in Note 7, the Company recorded an impairment of right of use assets and leasehold improvements during the years ended August 31, 2021 and 2020.

(v) Deferred Financing Fees

Deferred financing fees include costs incurred primarily in connection with entering into the Company's revolving credit facility (see Note 13). These costs are capitalized on the accompanying consolidated balance sheets in other assets and are amortized on a straight-line basis over the term of the revolving credit facility. Amortization expense is included as a component of interest expense on the accompanying consolidated statements of operations.

(w) Share-Based Compensation

The Company accounts for share-based compensation awards in accordance with FASB ASC 718, *Compensation: Stock Compensation*. FASB ASC 718 requires all share-based awards to employees to be recognized in the statements of operations based on their fair values.

The determination of the fair value of the Class D incentive units and Phantom Unit awards granted prior to the IPO was estimated by management using an income approach and through the use of an option pricing model, to allocate the estimated value of the Company to each of the classes of partnership units. The fair value of the Company's restricted common stock awards and phantom stock awards is equal to the market value of the Company's common stock on the date of grant. The fair value of the Company's stock options and stock appreciation rights are estimated at the grant date using the Black-Scholes model. The inputs utilized in this model require judgments and estimates. Changes in these inputs could affect the measurement of the estimated fair value of the related compensation expense of these stock options and stock appreciation rights. The Company recognizes the compensation cost of share-based awards on a straight-line basis over the requisite service period (typically the vesting period) of the award. The Company recognizes forfeitures as they occur.

(x) Income Taxes

Income taxes are accounted for using the asset and liability method. Under this method, deferred tax asset and liabilities are recognized for differences between the financial statement carrying amounts of existing assets and liabilities and their respective income tax bases, and operating loss and tax credit carryforwards, by using enacted tax rates in effect in the year in which the differences are expected to reverse. All deferred tax assets and liabilities are classified as non-current on the Company's consolidated balance sheets. Valuation allowances are provided if based upon the weight of available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized.

Tax benefits from uncertain tax positions are recognized if it is more likely than not that the tax position will be sustained on examination by the taxing authorities based on the technical merits of the position.

The Company recognizes interest and penalties related to unrecognized tax benefits in income tax expense in its consolidated statements of operations.

Prior to the IPO, the Company was a limited partnership for income tax purposes. While the Company was a limited partnership, the subsidiaries were the primary entities from an income tax perspective. The Company based its income tax rate reconciliation and other tax disclosures on the fact that the U.S. is the predominant tax jurisdiction where the Company operates.

(y) Advertising Expenses

Advertising costs are expensed in the period in which the cost was incurred. Total advertising expenses were immaterial for the years ended August 31, 2022, 2021 and 2020.

(z) Leases

Effective September 1, 2019, the Company adopted Financial Accounting Standards Board (FASB) Accounting Standards Update (ASU) 2016-02, *Leases* (Topic 842), as amended (ASC 842). In accordance with ASC 842, at the inception of an arrangement, the Company determines whether the arrangement is or contains a lease based on the unique facts and circumstances present and the classification of the lease. Most leases with a term greater than one year are recognized on the consolidated balance sheet as operating lease assets, lease liabilities and, if applicable, long-term lease liabilities. The Company elected not to recognize on the balance sheet leases with terms of one year or less. For contracts with lease and non-lease components, the Company has elected not to allocate the contract consideration and to account for the lease and non-lease components as a single lease component.

(amounts in thousands except unit and per unit and share and per share amounts)

Lease liabilities are recorded based on the present value of lease payments over the expected lease term. The implicit rate within our operating leases are generally not determinable and therefore the Company uses the incremental borrowing rate at the lease commencement date to determine the present value of lease payments. The determination of our incremental borrowing rate requires judgment. The Company determines the incremental borrowing rate for each lease using its estimated borrowing rate, adjusted for various factors including level of collateralization, term and currency to align with the terms of the lease. The operating lease asset also includes any lease prepayments, offset by lease incentives. Certain of the Company's leases include options to extend or terminate the lease. An option to extend the lease is considered in connection with determining the operating lease asset and lease liability when it is reasonably certain that the option will be exercised. An option to terminate is considered unless it is reasonably certain that the option will not be exercised.

(aa) Recent Accounting Pronouncements Not Yet Effective

In March 2020, the FASB issued ASU No. 2020-04, *Reference Rate Reform* (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting. This new guidance provides temporary optional expedients and exceptions to current guidance to ease the financial reporting burdens related to the expected market transition from the London Interbank Offered Rate (LIBOR) to alternative reference rates. We may elect to apply the optional expedients and exceptions prospectively through December 31, 2022. The Company does not expect the new standard to have a material impact on its consolidated financial statements.

Other recent accounting pronouncements that are or will be applicable to the Company did not, or are not expected to, have a material impact on the Company's present or future financial statements.

(3) Business Combinations

Acquisition of Effisoft SAS and Prima Solutions Belgium SA

On July 12, 2022, the Company completed the acquisition of all the outstanding shares of Effisoft SAS and Prima Solutions Belgium SA ("Effisoft"), which includes the commercial reinsurance technology solution, Prima XL and a regulatory compliance management solution, Prima Compliance, for a total cash consideration of €111.2 million ($112.0 million). The purchase price includes €11.0 million ($11.1 million) paid into an escrow account as security for certain representations, warranties, and obligations of the sellers.

The following allocation of the initial purchase price includes a preliminary valuation of the acquired intangible assets and tangible assets:

Tangible assets acquired, net	$ 3,041
Identifiable intangible assets:	
Technology-related	7,650
Customer relationships	26,474
Goodwill	83,346
Deferred tax liabilities	(8,531)
Total assets acquired	$ 111,980

The amounts above represent the preliminary fair value estimates as of July 1, 2022 and are subject to subsequent adjustment as the Company obtains additional information during the measurement period and finalizes its fair value estimates for intangible assets and for certain components of working capital and deferred income taxes. The preliminary identifiable intangible asset estimate includes customer relationships of $26.5 million with a useful life of 15 years and technology of $7.7 million with a useful life of 8 years. Any subsequent adjustments to these fair value estimates occurring during the measurement period will result in an adjustment to goodwill. The goodwill reflects the value of the assembled workforce and the company-specific synergies we expect to realize by selling Effisoft products and services to our existing customers. The results of operations of Effisoft have been included prospectively in our results of operations since the date of acquisition.

Contingent Earnout Liability

The following table summarizes the changes in fair value of the Company's contingent earnout liability related to the Outline Systems LLC ("Outline") acquisition during the years ended August 31, 2020, 2021, and 2022:

	Outline Systems, LLC
Balance at August 31, 2019	$ 9,440
Change in fair value, including accretion	450
Payments to sellers	(2,798)
Balance at August 31, 2020	7,092
Change in fair value, including accretion	293
Payments to sellers	(1,923)
Balance at August 31, 2021	5,462
Change in fair value, including accretion	67
Payments to sellers	(5,529)
Balance at August 31, 2022	$ —

The final earnout payment related to the Outline acquisition was made in November 2021. The total cumulative earnout paid to the Outline sellers was $10.3 million.

(4) Fair Value Measurements

Available-for-sale investments within cash equivalents and short-term investments consist of the following (in thousands):

	August 31, 2022			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
Money market funds - presented in cash and cash equivalents	$ 239	$ —	$ —	$ 239
U.S. Government agency securities and treasuries - presented in cash and cash equivalents	88,045	—	—	88,045
U.S. Government agency securities and treasuries - presented in short-term investments	117,481	342	—	117,823
Total	$ 205,765	$ 342	$ —	$ 206,107

	August 31, 2021			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
U.S. Government agency securities and treasuries - presented in short-term investments	$ 191,917	$ 64	$ —	$ 191,981
Total	$ 191,917	$ 64	$ —	$ 191,981

The Company has recorded the securities at fair value in its consolidated balance sheet and unrealized gains and losses are reported as a component of accumulated other comprehensive income (loss). The amount of realized gains and losses reclassified into earnings are based on the specific identification of the securities sold or securities that reached maturity date. The remaining securities will mature before the end of the first quarter of fiscal year 2023.

(amounts in thousands except unit and per unit and share and per share amounts)

Fair Value

The Company measures certain financial assets and liabilities at fair value. Fair value is determined based upon the exit price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants, as determined by either the principal market or the most advantageous market.

Inputs used in the valuation techniques to derive fair values are classified based on a three-level hierarchy, as follows:

- Level 1 Inputs: Unadjusted quoted prices in active markets for identical assets or liabilities accessible to the reporting entity at the measurement date.
- Level 2 Inputs: Other than quoted prices included in Level 1 inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the asset or liability.
- Level 3 Inputs: Unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at measurement date.

The following tables present the Company's financial assets and liabilities measured and recorded at fair value on a recurring basis using the above input categories as of August 31, 2022 and 2021:

	August 31, 2022			
	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds - presented in cash and cash equivalents	$ 239	$ —	$ —	$ 239
U.S. Government agency securities and treasuries - presented in cash and cash equivalents	88,045	—	—	88,045
U.S. Government agency securities and treasuries - presented in short-term investments	117,823	—	—	117,823
Total assets	$ 206,107	$ —	$ —	$ 206,107
Liabilities:				
Liability classified awards	$ 36	$ —	$ 57	$ 93
Total liabilities	$ 36	$ —	$ 57	$ 93

	August 31, 2021			
	Level 1	Level 2	Level 3	Total
Assets:				
U.S. Government agency securities and treasuries - presented in short-term investments	$ —	$ 191,981	$ —	$ 191,981
Total assets	$ —	$ 191,981	$ —	$ 191,981
Liabilities:				
Liability classified awards	$ 1,448	$ —	$ 1,588	$ 3,036
Contingent earnout liability	—	—	5,462	5,462
Total liabilities	$ 1,448	$ —	$ 7,050	$ 8,498

The contingent earnout liability related to business combinations is recorded at fair value on the acquisition date and is adjusted each reporting period for changes in fair value, which can result from changes in anticipated payments and changes in assumed discount periods and rates. These inputs are unobservable in the market and therefore categorized as level 3 inputs as defined above. Quoted prices for liability classified stock appreciation rights are not readily available. Accordingly, the Company uses a Black-Scholes model to estimate the fair value of these awards, which utilizes level three inputs. The following table summarizes the changes in the estimated fair value of the Company's level 3 categorized liability classified awards for the year ended August 31, 2022:

(amounts in thousands except unit and per unit and share and per share amounts)

Balance as of August 31, 2021	$ 1,588
Additions due to new awards	—
Net change in the fair value	(1,531)
Cash settlement of awards	—
Balance as of August 31, 2022	$ 57

(5) Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets as of August 31, 2022 and 2021 consisted of the following:

	August 31, 2022	August 31, 2021
Directors and officers insurance	$ —	$ 5,515
Computer software and licenses	7,930	5,861
Other	5,425	3,005
Total prepaid expenses and other current assets	$ 13,355	$ 14,381

(6) Property and Equipment, Net

Property and equipment, net as of August 31, 2022 and 2021 consisted of the following:

	August 31, 2022	August 31, 2021
Leasehold improvements	$ 10,280	$ 10,572
Internal-use software	10,198	8,230
Computer equipment	6,951	4,849
Furniture and fixtures	2,018	2,304
Office equipment	768	496
Assets under construction	300	111
Total property and equipment	$ 30,515	$ 26,562
Less accumulated depreciation and amortization	(16,439)	(12,257)
Property and equipment, net	$ 14,076	$ 14,305

Depreciation expense related to property and equipment was $2.6 million, $3.1 million and $3.1 million for the years ended August 31, 2022, 2021 and 2020, respectively.

Amortization expense related to internal-use software was $2.4 million, $2.0 million, $0.7 million for the fiscal years ended August 31, 2022, 2021 and 2020.

(7) Leases

The Company's lease obligations consist of operating leases for domestic and international office facilities with lease periods expiring between fiscal years 2022 and 2029. Some leases include one or more options to renew. Lease renewals are not assumed in the determination of the lease term until the exercise of the renewals are deemed to be reasonably certain. For the fiscal year ended August 31, 2022, the Company incurred $3.9 million of operating lease expense and $0.1 million of short term lease expense resulting in total lease expense of $4.0 million. For the fiscal year ended August 31, 2021, the Company incurred $4.5 million of operating lease expense and $0.3 million of short term lease expense resulting in total lease expense of $4.8 million. For the fiscal year ended August 31, 2020, the Company incurred $4.6 million of operating lease expense and $0.3 million of short term lease expense resulting in total lease expense of $4.9 million.

(amounts in thousands except unit and per unit and share and per share amounts)

During the fourth quarter of fiscal 2021, the Company closed its London, Barcelona, Chandigarh, and Columbia offices. As a result of these decisions, the Company recorded an impairment in the amount of $2.6 million, consisting of $1.9 million of right of use assets and $0.7 million of leasehold improvements, which is included in general and administrative expense on the consolidated statement of operations for the year ended August 31, 2021.

During the fourth quarter of fiscal 2020, the Company closed its New Jersey office. The Company also closed one floor of its South Carolina office.

As a result of these decisions, the Company recorded an impairment in the amount of $2.8 million, consisting of $1.7 million of right of use assets and $1.1 million of leasehold improvements, which is included in general and administrative expense on the consolidated statement of operations for the year ended August 31, 2020. During the third quarter of fiscal 2021, the Company recorded a $0.5 million gain on the derecognition of a lease liability resulting from a sublease transaction for the South Carolina office. This gain is included in other income (expense), net on the consolidated statements of operations for the year ended August 31, 2021.

Future operating lease payments as of August 31, 2022 were as follows:

Fiscal Year Ending August 31,		
2023	$	5,400
2024		5,490
2025		5,132
2026		3,788
2027		2,470
Thereafter		2,540
Total future lease payments		24,821
Less imputed interest		(2,392)
Total lease liability balance	$	22,429

Supplemental information related to leases was as follows:

		August 31, 2022		**August 31, 2021**
Operating lease assets	$	16,502	$	17,798
Current portion of lease liabilities	$	4,552	$	4,110
Non-current portion of lease liabilities		17,877		21,273
Total lease liabilities	$	22,429	$	25,383
Weighted average remaining lease term (years)		5.0		5.2
Weighted average discount rate		4.2%		4.2%

Supplemental cash and non-cash information related to operating leases was as follows:

		August 31, 2022		**August 31, 2021**
Cash payments for operating leases	$	5,112	$	4,056
Operating lease assets obtained in exchange for lease liabilities	$	—	$	—

(amounts in thousands except unit and per unit and share and per share amounts)

(8) Goodwill and Intangible Assets

The Company's goodwill is the result of its acquisitions of other businesses and represents the excess of purchase consideration over the fair value of assets acquired and liabilities assumed. The carrying amount of goodwill is not amortized, but rather tested for impairment annually. No impairment losses associated with goodwill impairment have been recorded by the Company to date. Goodwill for the periods ended August 31, 2022 and 2021 consist of the following:

	Gross Carrying Amount	Effect of Currency Translation	Net Carrying Amount
Balance at August 31, 2021	$ 272,455	$ —	$ 272,455
Goodwill from acquisitions	83,346	—	83,346
Foreign currency translation	—	(303)	(303)
Balance at August 31, 2022	$ 355,801	$ (303)	$ 355,498

	Gross Carrying Amount	Effect of Currency Translation	Net Carrying Amount
Balance at August 31, 2020	$ 272,455	$ —	$ 272,455
Goodwill from acquisitions	—	—	—
Foreign currency translation	—	—	—
Balance at August 31, 2021	$ 272,455	$ —	$ 272,455

Intangible assets as of August 31, 2022, and 2021 consisted of the following:

	August 31, 2022				
	Gross carrying amount	Accumulated amortization	Effect of Currency Translation	Net carrying amount	Weighted average remaining life
Customer relationships	$ 130,074	$ (62,535)	$ (96)	$ 67,442	8.3 years
Acquired technology	39,885	(28,134)	(28)	11,724	5.3 years
Trademarks and tradenames	9,400	(5,718)	—	3,682	3.9 years
Domain name	100	(60)	—	40	4 years
Backlog	6,700	(6,700)	—	—	0 years
	$ 186,159	$ (103,147)	$ (124)	$ 82,888	

	August 31, 2021			
	Gross carrying amount	Accumulated amortization	Net carrying amount	Weighted average remaining life
Customer relationships	$ 103,600	$ (51,815)	$ 51,785	5.3 years
Acquired technology	32,235	(23,509)	8,726	1.8 years
Trademarks and tradenames	9,400	(4,778)	4,622	4.8 years
Domain name	100	(50)	50	4.8 years
Backlog	6,700	(6,524)	176	0.8 years
	$ 152,035	$ (86,676)	$ 65,359	

Amortization expense was $16.3 million, $16.3 million and $17.1 million for the years ended August 31, 2022, 2021 and 2020, respectively. Amortization expense is recorded on a straight line basis over the estimated useful lives of the assets. Amortization expense associated with the backlog intangible asset is classified as a reduction of revenue in the accompanying consolidated statements of operations.

(amounts in thousands except unit and per unit and share and per share amounts)

As of August 31, 2022, the estimated future amortization of purchased intangible assets is as follows:

Fiscal year:		
2023	$	17,936
2024		14,164
2025		14,019
2026		13,068
2027		2,911
2028 and thereafter		20,790
Total	$	82,888

(9) Net Loss Per Share

The Company calculates basic earnings per share by dividing the net income (loss) by the weighted average number of shares of common stock outstanding for the period. Diluted earnings per share is computed by assuming the exercise, settlement, and vesting of all potential dilutive common stock equivalents outstanding for the period using the treasury stock method.

The following table sets forth a reconciliation of the numerator and denominator used to compute basic earnings per share of common stock.

	Year Ended August 31,			
	2022		2021	
Numerator				
Net loss	$	(8,332)	$	(16,931)
Denominator				
Weighted average shares of common stock - basic and diluted		132,205,020		131,114,791
Net loss per share - basic and diluted	$	(0.06)	$	(0.13)

As of August 31, 2022 and 2021 1,273,972 and 3,022,585, respectively, shares outstanding of potential common stock, prior to the use of the treasury stock method, were excluded from the computation of diluted weighted-average shares of common stock outstanding because their effect would have been antidilutive.

Prior to the IPO, there were no shares of common stock outstanding, and the membership structure of Duck Creek Technologies consisted of limited partnership units. Basic earnings per share is applicable only for the period from August 14, 2020 through August 31, 2020, which is the period following the IPO and related Reorganization Transactions (as described in Note 1) and presents the period that the Company had outstanding common stock. The following table sets forth a reconciliation of the numerator and denominator used to compute basic earnings per share of common stock for this period.

	Year Ended August 31,	
	2020	
Numerator		
Net loss	$	(29,932)
Net loss attributable to the Operating Partnership before the Reorganization Transactions		(5,598)
Net loss attributable to Duck Creek Technologies, Inc.	$	(24,334)
Denominator		
Weighted average shares of common stock - basic and diluted		130,702,511
Net loss per share - basic and diluted	$	(0.19)

(amounts in thousands except unit and per unit and share and per share amounts)

The Company analyzed the calculation of earnings per unit for periods prior to the IPO and determined that it resulted in values that would not be meaningful to the users of these consolidated financial statements. Therefore, earnings per share information has not been presented for any period prior to August 31, 2020.

As of August 31, 2020, 4,594,242 shares outstanding of potential common stock, prior to the use of the treasury stock method, were excluded from the computation of diluted weighted-average shares of common stock outstanding because their effect would have been antidilutive.

(10) Other Assets

Other assets as of August 31, 2022 and 2021 consisted of the following:

	August 31, 2022	August 31, 2021
Deferred contract costs	$ 14,682	$ 14,056
Other noncurrent assets	6,611	5,357
Total other assets	$ 21,293	$ 19,413

The amortization related to deferred contracts costs were $2.5 million, $2.1 million and $1.5 million for the fiscal year ended August 31, 2022, 2021 and 2020, respectively, and there was no impairment loss in relation to the costs capitalized.

(11) Accounts Receivable and Allowance for Credit Losses

Accounts receivable, net as of August 31, 2022 and August 31, 2021, consisted of the following:

	August 31, 2022	August 31, 2021
Accounts receivable	$ 32,913	$ 36,054
Allowance for credit losses	(2,974)	(1,425)
Accounts receivable, net	$ 29,939	$ 34,629

The following table presents changes to the allowance for credit losses during the year ended August 31, 2022:

Allowance, August 31, 2021	$ (1,425)
Net changes to credit losses	(2,626)
Write-offs, net	737
Recoveries of previously reserved amounts	340
Allowance, August 31, 2022	$ (2,974)

(12) Accrued Liabilities

Accrued liabilities as of August 31, 2022 and 2021 consisted of the following:

(amounts in thousands except unit and per unit and share and per share amounts)

	August 31, 2022	August 31, 2021
Accrued bonuses	$ 14,146	$ 18,831
Accrued vacation	5,490	5,572
Accrued hosting fees	7,122	7,500
Accrued withholding taxes	2,800	2,771
Liability-classified phantom units and SARs	93	3,036
Accrued professional service fees	425	369
Accrued commissions	1,458	1,429
Other	10,213	6,929
Total accrued liabilities	$ 41,747	$ 46,437

(13) Credit Facility

On October 22, 2021, the Company executed an amended and restated credit agreement for its revolving credit facility, increasing its maximum borrowing capacity from $30.0 million to $45.0 million. The revolving credit facility has a term of five years and is secured by substantially all of the Company's tangible assets. Interest accrues on the revolving credit facility at a variable rate based upon the type of borrowing made by the Company. Borrowings can either incur interest at a rate of LIBOR (as administered by ICE Benchmark Administration) plus an applicable margin, or incur interest at the higher of: (i) the Prime Rate, (2) the Fed Funds Rate plus 0.5%, or (3) LIBOR plus 1.0%, plus an applicable margin. The applicable margin ranges from 1.0% to 2.0% depending on the interest rate basis and type of borrowing elected. In addition to interest on the revolving credit facility, the Company pays a commitment fee of 0.5% per annum on the unused portion of the revolving credit facility. Repayment of any amounts borrowed are not required until maturity of the revolving credit facility, however the Company may repay any amounts borrowed at any time, without premium or penalty. The Company is required to meet certain financial and nonfinancial covenants under the terms of the revolving credit facility. These covenants include limits on the creation of liens, limits on making certain investments, limits on incurring additional indebtedness, and maintaining a leverage ratio at or below a maximum level. The Company was in compliance with these financial and nonfinancial covenants as of August 31, 2022. There was no outstanding balance under the revolving credit facility at August 31, 2022 or August 31, 2021. Letters of credit of $0.7 million and $0.9 million were outstanding under the revolving credit facility at August 31, 2022 and August 31, 2021, respectively.

(14) Commitments and Contingencies

(a) Litigation

From time to time, the Company is a party to or can be threatened with litigation in the ordinary course of business. The Company regularly analyzes current information, including, as applicable, the Company's defenses and insurance coverage and, as necessary, provides accruals for probable and estimable liabilities for the eventual disposition of any matters. The Company was not a party to any material legal proceedings as of August 31, 2022 or 2021.

(b) Guarantees

The Company's products are typically warrantied to perform in a manner consistent with general industry standards that are reasonably applicable and substantially in accordance with the Company's product documentation under normal use and circumstances. The Company's services are generally warrantied to be performed in a professional manner and to materially conform to the specifications set forth in the related customer contract. The Company's arrangements also include certain provisions for indemnifying customers against liabilities if its products or services infringe a third party's intellectual property rights.

(amounts in thousands except unit and per unit and share and per share amounts)

To date, the Company has not incurred any material costs as a result of such indemnifications or commitments and has not accrued any liabilities related to such obligations in the accompanying consolidated financial statements.

(15) Income Taxes

The Company’s loss before income taxes for the years ended August 31, 2022, 2021 and 2020 is as follows:

	August 31, 2022	August 31, 2021	August 31, 2020
United States	$ (4,694)	$ (21,193)	$ (32,593)
Foreign	(2,347)	6,158	4,223
Loss before income taxes	$ (7,041)	$ (15,035)	$ (28,370)

The provision for income taxes consisted of the following:

	August 31, 2022	August 31, 2021	August 31, 2020
Current:			
Federal	$ —	$ —	$ —
State	44	174	97
Foreign	529	1,059	896
Total current tax expense	573	1,233	993
Deferred:			
Federal	$ 47	$ —	$ —
State	67	—	—
Foreign	604	663	569
Total deferred tax expense	718	663	569
Total provision for income taxes	$ 1,291	$ 1,896	$ 1,562

(amounts in thousands except unit and per unit and share and per share amounts)

The table below reconciles the differences between income taxes computed at the U.S. federal statutory rate and the provision for income taxes:

	August 31, 2022	2021	2020
Federal statutory tax rate	21.0 %	21.0 %	21.0 %
State taxes, net of federal benefit	(1.2)%	(0.9)%	(0.5)%
Permanent differences	1.7 %	(0.8)%	0.8 %
Share-based compensation	(3.8)%	4.7 %	(2.0)%
Non-deductible officer's compensation	(1.3)%	(2.4)%	(2.1)%
Federal research and development credits	13.8 %	9.4 %	2.1 %
Foreign rate differential	(11.5)%	(3.7)%	(2.1)%
Change in valuation allowance	(37.0)%	(39.9)%	(22.7)%
Total income tax expense%	(18.3)%	(12.6)%	(5.5)%

Net deferred tax assets (liabilities) consist of the following:

	August 31, 2022	2021
Assets:		
Net operating loss carryforward	$ 26,185	$ 23,681
Intangible assets	23,049	24,571
Tax credits	5,464	4,496
Other nondeductible expenses	10,127	10,931
Share-based compensation	3,507	2,520
Interest expense carryforward	—	132
Lease liabilities	4,121	4,780
Depreciation	327	414
Gross deferred tax assets	$ 72,780	$ 71,525
Less valuation allowance	(61,229)	(59,207)
Total deferred tax assets	$ 11,551	$ 12,318
Liabilities:		
Intangible assets	(10,798)	(1,651)
Operating lease assets	(2,703)	(3,094)
Capitalized items	(5,086)	(5,019)
Depreciation	(486)	(858)
Total deferred tax liabilities	(19,073)	(10,622)
Total net deferred tax (liabilities) assets	$ (7,522)	$ 1,696

The Company recognizes a net deferred tax asset for the future benefit of tax losses, tax credit carryforwards, and other deductible temporary differences to the extent that it is more likely than not that these assets will be realized. In evaluating the Company’s ability to recover these deferred tax assets, the Company considers all available positive and negative evidence, including its past operating results, the existence of cumulative income in the most recent years, changes in the business, the projected reversal of existing deferred tax liabilities, its forecast of future taxable income, and the availability of tax planning strategies. A valuation allowance is provided when it is more likely than not that some portion or all of a deferred tax asset will not be realized.

(amounts in thousands except unit and per unit and share and per share amounts)

As of the years ended August 31, 2022 and 2021, the Company evaluated the likelihood that it would realize its deferred tax assets and concluded that a valuation allowance is necessary, except in certain foreign subsidiaries which generate income. The valuation allowance increased by $2.0 million for the fiscal year ended August 31, 2022 primarily due to operating losses generated during the year, tax credits, and other non-deductible expenses. The valuation allowance increased by $6.3 million for the fiscal year ended August 31, 2021 primarily due to operating losses generated during the year, tax credits, and other non-deductible expenses.

As of August 31, 2022, the Company had U.S. federal and U.S. state net operating loss carryforwards of $89.5 million and $58.3 million, respectively. The U.S. federal and U.S. state net operating loss carryforwards expire at various dates beginning in 2032. As of August 31, 2022, the Company had foreign net operating loss carryforwards of $21.4 million that can be carried forward indefinitely. The Company also had U.S. federal research and development credit carryforwards of $4.8 million, U.S. state research and development credit carryforwards of $0.8 million and a state investment tax credit carryforward of $0.1 million as of 2022. These credit carryforwards expire at various dates beginning in 2030.

Utilization of the net operating loss and research and development credit carryforwards may be subject to a substantial annual limitation under Section 382 of the Internal Revenue Code due to ownership change limitations that have occurred previously or that could occur in the future. These ownership changes may limit the amount of net operating loss and research and development credit carryforwards that can be utilized annually to offset future taxable income and tax, respectively. The Company assessed the impact of Section 382 through fiscal 2021 and determined that there are no material impact on the utilization of its available carryforwards. The Company is in the process of preparing a Section 382 assessment for fiscal 2022 and does not expect there to be a material impact on the utilization of its available carryforwards. The Company does not expect to be precluded from realizing the net operating loss carryforwards and tax credits but may be limited in the amount it could use in any given tax year in the event that the federal and state taxable income exceeds the limitation imposed by Section 382. The amount of the annual limitation is determined based on the Company's value immediately prior to the ownership change. Subsequent ownership changes may further affect the limitation in future years.

A reconciliation of unrecognized income tax benefits is as follows:

		Amount
Balance at August 31, 2020	$	395
No change - current year and prior year tax positions		—
Balance at August 31, 2021	$	395
No change - current year and prior year tax positions		—
Balance at August 31, 2022	$	395

The Company accounts for uncertain tax positions using a more-likely than-not threshold for recognizing and resolving uncertain tax positions. The evaluation of uncertain tax positions is based on factors that include, but are not limited to, changes in tax law, the measurement of tax positions taken or expected to be taken in tax returns, the effective settlement of matters subject to audit, new audit activity, and changes in facts or circumstances related to a tax position. The Company evaluates uncertain tax positions on an annual basis and adjusts the level of the liability to reflect any subsequent changes in the relevant facts surrounding the uncertain positions. The Company elected an accounting policy to record interest and penalties related to income taxes as a component of income tax expense. There were no changes in uncertain tax positions in fiscal year 2022 or 2021. During the next 12 months, the Company does not expect any material changes to its uncertain tax positions other than the accrual of interest in the normal course of business.

In the normal course of business, the Company is subject to examination by U.S. federal and certain state and foreign taxing authorities. All tax periods remain subject to income tax examinations as of August 31, 2022. The statute of limitations for these jurisdictions is generally three to seven years. However, to the extent that the Company utilizes net operation losses or other similar carryforward attributes such as credits, the statute remains open to the extent of the net operation losses or credits that are utilized.

(amounts in thousands except unit and per unit and share and per share amounts)

(16) Redeemable Partners' Interest and Partners' Capital and Stockholders' Equity

Redeemable Partners' Interest and Partners' Capital

As of August 13, 2020, prior to the closing of the Reorganization Transactions and IPO (see Note 1 – Nature of Business), the following units of the partnership were authorized, issued and outstanding in accordance with the Company's amended and restated Agreement of Exempted Limited Partnership Agreement (Partnership Agreement):

Description	Authorized	Issued and outstanding
Unit classes:		
Class A	5,000,000,000	183,354,104
Class B	5,000,000,000	122,236,021
Class C	5,000,000,000	3,660,106
Class D	59,247,586	47,170,961
Class E	129,828,398	129,828,398

Of the 47,170,961 Class D Units outstanding noted in the table above, 27,356,428 were unvested as of August 13, 2020.

In October 2018, the Company issued 1,500,000 Class C Units, with an aggregate fair value of $2.0 million, as part of the purchase price of the Outline acquisition as further described in Note 3 – Business Combinations.

In November 2019, the Company issued 41,412,296 Class E Units in exchange for cash consideration of $120.0 million to certain accredited investors. Also in November 2019, the Company redeemed 20,292,029 Class A Units and 13,528,013 Class B Units in exchange for $98.0 million.

In February 2020, the Company issued 30,222,126 Class E Preferred Units in exchange for cash consideration of $0.1 million to certain accredited investors. Also in February 2020, the Company redeemed 18,133,278 Class A Units and 12,088,848 Class B Units in exchange for $0.1 million.

In June 2020, the Company issued 58,193,976 Class E Preferred Units in exchange for cash consideration of $230.0 million to certain accredited investors. Also in June 2020, the Company redeemed 30,362,073 Class A Units and 20,241,374 Class B Units in exchange for $199.9 million. The Company incurred $11.4 million in aggregate issuance costs associated with the Class E Units.

Additionally, the Company issued Class D incentive units and Phantom Unit incentive awards to certain employees and directors of the Company (see Note 17 – Share-Based Compensation).

The Class A, Class B, Class C, and Class E Units were held by the Company's limited partners, with the exception of 100 Class A Units which were held by the Company's general partner.

Prior to the Reorganization Transactions and IPO, profits and losses were allocated to each class in such a manner, as close as possible, to equal the amount that would be distributable to each partner upon dissolution of the Company. The rights and preferences of the Class A, Class B, Class C, Class D, and Class E Units were as follows:

Voting rights: All units of the limited partners were deemed to be nonvoting units and did not entitle any holder thereof to any right to vote upon or approve any action to be taken by the Company. The Company's general partner, Disco (Cayman) GP Co., had broad authority to act on behalf of the partnership.

Distribution preferences: The partners of the Company were entitled to receive distributions in the following order priority: (1) first, 100% to the holders of Class A Units, Class B Units, Class C Units, and Class E Units in proportion to their unreturned capital amounts, (2) second, to all holders, on a ratable basis, of Class A Units, Class B Units, Class C Units, Class D, and Class E Units held at the time of distribution.

(amounts in thousands except unit and per unit and share and per share amounts)

Liquidation preferences: Upon any liquidation or dissolution of the Company, the partners were entitled to a distribution of the remaining assets of the Company after payment or provision for the Company's liabilities has been made, in accordance with the distribution preferences described above.

Redemption rights: The holders of the Class A Units, Class B Units, Class C Units, and Class D Units did not have the right to redeem the units, outside of the distribution and liquidation terms described above. The holders of the Class E Units had the right to redeem the units upon (i) the occurrence of the Company not achieving certain liquidity events by the fourth anniversary of the original issuance of the Class E Units, and (ii) notice to the Company's general partner. Although units of the Company were not mandatorily redeemable, they were classified outside of partner's capital because they were potentially redeemable upon certain events outside of the Company's control, including a change in control, sale, dissolution, or winding up.

Repurchase rights: In the event that an employee holding Class C Units was terminated for cause or upon breach of the agreement between the Company and the employee, the Company had the right to repurchase the Class C Units for the lower of the cost basis (to the holder) of the Class C Units, the fair value of the Class C Units at the date of termination or the fair value of the Class C Units at the date of repurchase. The Company also had the right to repurchase vested Class D Units upon termination as further described in Note 16 – Share-Based Compensation.

Reorganization Transactions and Initial Public Offering

Following the Reorganization Transactions and IPO as further described in Note 1 – Nature of Business, the holders of Class A, Class B, Class C, Class D and Class E Units retained all or a portion of their equity ownership in the Company through their ownership of common stock of the Company. The units of the partnership were converted into the following shares of common stock:

	Units Held Pre-IPO	Converted Shares Post-IPO
Class A	183,354,104	45,838,526
Class B	122,236,021	28,855,284
Class C	3,660,106	915,027
Class D	19,814,533	7,930,897
Class E	129,828,398	32,457,100
	458,893,162	115,996,833

Non-controlling Interests

Following the Reorganization Transactions, the outstanding LP Units of the Operating Partnership owned by Accenture and RBW that were not contributed to the Company were treated as non-controlling interests. However, these outstanding LP Units of the Operating Partnership were subsequently redeemed using proceeds obtained from the IPO. Accordingly, the balance of non-controlling interests as of August 31, 2020 was $0.

Common Stock Reserved for Issuance

As of August 31, 2022, the Company was authorized to issue 300,000,000 shares of common stock with a par value of $0.01 per share and 132,686,867 shares of common stock were outstanding. As of August 31, 2022, the Company had 15,910,948 shares of common stock reserved for future issuance under the Company's 2020 Omnibus Incentive Plan.

Follow-on Offering

During the second quarter of 2021, the Company completed a follow-on offering of its common stock. The Company issued 90,000 shares in exchange for cash consideration of $3.5 million to certain accredited investors.

(amounts in thousands except unit and per unit and share and per share amounts)

(17) Share-Based Compensation

2020 Omnibus Incentive Plan

As part of the Reorganizations Transactions, the Company adopted the Duck Creek Technologies, Inc. 2020 Omnibus Incentive Plan (the "Plan"). The purpose of the Plan is to provide additional incentives to selected officers, employees, non-employee directors, independent contractors and consultants, to strengthen their commitment to the Company and to attract and retain competent and dedicated persons who are essential to the success of the Company's business. The maximum number of shares of the Company's common stock reserved for issuance under the Plan is 18,000,000 shares. This reserve will automatically increase on January 1st of each calendar year, prior to the tenth anniversary of the effective date of the Plan, by an amount equal or lesser of (i) 4% of the number of shares of common stock issued and outstanding on December 31st of the preceding year and (ii) an amount determined by the Plan administrator. On January 1, 2022, the reserve was increased by 4% of the number of shares of common stock issued and outstanding on December 31, 2021, or 5,367,506 shares. The shares available for issuance are subject to adjustment in the event of a stock split, stock dividend or other defined changes in the Company's capitalization.

Class D Units and Phantom Units

Prior to the IPO, the Company granted Class D incentive units (Class D Units) to certain employees and directors under the terms of Incentive Unit Award Agreements. The Company also granted Phantom Unit incentive awards (Phantom Units) to certain employees of its international subsidiaries. The Class D Units and Phantom Units were granted in three tranches, as follows:

Class D-1 Units	80% of the units granted
Class D-2 Units	10% of the units granted
Class D-3 Units	10% of the units granted

Vesting of the Class D Units was 50% time-based, quarterly, over a four year period from the vesting start date, and 50% based on the date in which the Class D Units become participating units. These vesting terms applied to each of the Class D-1, Class D-2 and Class D-3 tranches described above. Class D-1 Units would become participating units upon the later of: (i) the date which aggregate distributions by the Company exceeded the minimum threshold equity value (as defined in each Incentive Unit Award Agreement), or (ii) when the total cumulative distributions made to the Class A Unit holders exceeded the aggregate investment made by the Class A Unit holders. Class D-2 and D-3 Units would become participating units upon the later of: (i) the date which aggregate distributions by the Company exceeded the minimum threshold equity value (as defined in each Incentive Unit Award Agreement), or (ii) when the total cumulative distributions made to the Class A Unit holders exceeded either three times (Class D-2 Units) or four times (Class D-3 Units) the aggregate investment made by the Class A Unit holders. The terms of the Phantom Unit awards were similar to the Class D Unit awards; however, they did not represent ownership of any class unit of the Company. The Phantom Units vested and became participating units in similar fashion to the Class D Units as described above. The holder of a vested and participating Phantom Unit was eligible to receive a distribution in the same form and consideration as a Class D Unit holder, however, only upon a change in control event. Upon receiving the distribution, the Phantom Units would cease to be outstanding.

Share-based compensation expense related to the issuance of Class D Units was calculated based upon the fair value of the Class D Units at the time of grant and recognized ratably over the requisite service period of the award. With respect to the Phantom Units, as a change in control event represents a contingent future event outside the control of the Company, the Company did not record any share-based compensation expense related to the Phantom Units until the contingency was resolved.

(amounts in thousands except unit and per unit and share and per share amounts)

The following is a summary of the Company's Class D Unit awards as of the date of the IPO:

	Number of Class D Units
Nonvested, August 31, 2019	30,391,861
Granted	3,420,000
Vested	(5,579,183)
Forfeited	(876,250)
Impact of conversion	(27,356,428)
Nonvested, August 31, 2020	—

Outstanding Class D Units of 47,170,961 converted to 9,785,895 shares of restricted common stock on the IPO date.

The following is a summary of the Company's Phantom Unit awards as of the date of the IPO:

	Number of Phantom Units
Nonvested, August 31, 2019	1,228,125
Granted	350,000
Vested	(197,969)
Forfeited	(143,750)
Impact of conversion	(1,236,406)
Nonvested, August 31, 2020	—

Outstanding Phantom Units of 1,894,063 converted to 373,581 Phantom stock awards on the IPO date.

Conversion of Class D Units and Phantom Units

On the date of the IPO, the Class D-1 Units became participating units when the total cumulative distributions made to the Class A Unit holders exceeded the aggregate investment made by the Class A Unit holders. In addition, participating D-1 Phantom Units became eligible for cash settlement. As part of the Reorganization Transactions; (i) Class D Units were converted to restricted common stock and (ii) non-participating Phantom Units were cancelled and replaced with new phantom stock awards. All converted and replaced awards retained the same vesting attributes as the original Class D Units and Phantom Units.

Vested and unvested Class D Units converted to an aggregate 9,785,895 shares of restricted common stock (“Class D Restricted Common Stock”). Of this amount, 7,930,897 were vested and 1,854,998 were unvested. The conversion was treated as a grant of a new award in exchange for cancellation of an old award, and therefore was accounted for as a modification. Accordingly, the Company compared the fair value of the Class D Units immediately prior to the conversion to the fair value of the Class D Restricted Common Stock granted. However, based on the conversion ratio in effect, no additional share-based compensation expense was recorded as the fair values were identical upon conversion.

As a result of the Participating D-1 Phantom Units becoming eligible for cash settlement, the Company recorded share-based compensation expense and an accrued liability of $6.6 million during the fiscal year ended August 31, 2020 based on the fair value of the awards on the date of IPO. Non-participating D-2 and D-3 Phantom Units were converted to 126,289 phantom stock awards (“Class D Phantom Stock Awards”). The grant date fair value of Class D Phantom Stock Awards is being recorded as share-based compensation expense over the requisite service period of the awards. The Company has concluded that Class D Phantom Stock Awards should be treated as liability classified share-based compensation awards because they will be settled in cash. Accordingly, the accrued liability balance associated with Class D Phantom Stock Awards is adjusted to fair value at each reporting period through earnings. During the fiscal year ended August 31, 2020, the Company recorded share-based compensation expense and an accrued liability of $1.2 million for Class D Phantom Stock Awards.

Leverage Restoration Options and SARs

In substitution for part of the economic benefit of the Class D Units that was not reflected in the conversion to Class D Restricted Common Stock, 1,802,216 stock options (“Leverage Restoration Options”) were granted to holders of Class D Units. The fair value of the Leverage Restoration Options is being recorded as share-based compensation expense over the requisite service period of the awards. During the fiscal year ended August 31, 2020, the Company recorded share-based compensation expense of $10.5 million for the Leverage Restoration Options.

Additionally, in substitution for part of the economic benefit of the Phantom Units that was not reflected in the conversion to Class D Phantom Stock Awards, 91,762 stock appreciation rights (“Leverage Restoration SARs”) were granted to holders of Phantom Units. The fair value of the Leverage Restoration SARs is being recorded as share-based compensation expense over the requisite period of the awards. The Company has concluded that the Leverage Restoration SARs should be treated as liability classified share-based compensation awards because they will be settled in cash. Accordingly, the accrued liability balance associated with Leverage Restoration SARs is adjusted to fair value at each reporting period through earnings. During the quarter ended August 31, 2020, the Company recorded share-based compensation expense and an accrued liability of $0.9 million for Leverage Restoration SARs.

Class D Restricted Common Stock

The Class D Restricted Common Stock awards retain the vesting attributes (including original service period vesting start date) of the Class D Units. Unless the applicable award agreement provides otherwise, participants with restricted stock will generally have all the rights of a stockholder during the restricted period.

(amounts in thousands except unit and per unit and share and per share amounts)

The following is a summary of the Company's Class D Restricted Common Stock:

	Number of Class D Restricted Stock
Nonvested, August 31, 2021	763,973
Granted	—
Vested	(567,495)
Forfeited	(82,904)
Nonvested, August 31, 2022	113,574

Unrecognized share-based compensation expense of $0.2 million related to Class D Restricted Common Stock as of August 31, 2022 is expected to be recognized over a period of 1.8 years. Since the fair value of the Class D Units and the fair value of the Class D Restricted Common Stock were identical upon conversion, the $0.1 million of future share-based compensation relates to the aggregate grant date fair value of the Class D Units determined in prior periods. As such, the disclosure of the weighted average fair value of the Class D Restricted Common Stock is not meaningful.

Leverage Restoration Options

Leverage Restoration Options were granted on the IPO date, with an exercise price of $27.00, a ten-year contractual term and retained the vesting attributes (including original service period vesting start dates) of the Class D Units. The per share fair value of each option award was estimated on the grant date under the Black-Scholes valuation model that used the following assumptions:

Expected life	4 years
Risk-free rate	0.24%
Volatility	35%
Dividend yield	0.00%

The following is a summary of the Company's Leverage Restoration Options:

	Number of Stock Options Outstanding	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)	Aggregate Intrinsic Value
Balance as of August 31, 2021	1,603,052	$ 27.00	9	31,468
Granted	—	—		
Exercised	(4,897)	$ 27.00		18
Forfeited	(27,413)	$ 27.00		—
Balance as of August 31, 2022	1,570,742	$ 27.00	8	—
Vested and expected to vest as of August 31, 2022	1,570,742	$ 27.00	8	—
Exercisable as of August 31, 2022	1,505,755	$ 27.00	8	—

Aggregate intrinsic value represents of the Leverage Restoration Options was determined using the Company's closing stock price of $11.90, $46.63 and $38.99 less the applicable weighted-average exercise price on August 31, 2022, August 31, 2021 and August 31, 2020, respectively.

As of August 31, 2022, unrecognized share-based compensation expense of $0.4 million related to these stock options is expected to be recognized over a weighted average period of 1.8 years.

Class D Phantom Stock Awards

(amounts in thousands except unit and per unit and share and per share amounts)

The Class D Phantom Stock Awards retain the vesting attributes (including original service period vesting start date) of the Phantom Units. These awards will be settled in cash equal to the fair market value of a share of the Company's common stock, determined on the day that such award becomes fully vested.

The following is a summary of the Company's Class D Phantom Stock Awards:

	Number of Class D Phantom Stock Awards
Nonvested, August 31, 2021	$ 46,046
Granted	—
Vested	(30,074)
Forfeited	(2,066)
Nonvested, August 31, 2022	$ 13,906

During the fiscal year ended August 31, 2022 and 2021, the Company recorded share-based compensation expense of ($0.2) million and $2.8 million, respectively for Class D Phantom Stock Awards. As of August 31, 2022 and 2021, the accrued liability associated with Class D Phantom Stock Awards was $0 and $1.5 million, respectively.

Leverage Restoration Stock Appreciation Rights

Leverage Restoration Stock Appreciation Rights ("SARs") were granted on August 14, 2020 with an exercise price of $27.00, a ten-year contractual term and retained vesting attributes (including original service period vesting start dates) of the Phantom Units. SARs will be settled in cash equal to the excess of the fair market value of a share of the Company's common stock, determined on the date of exercise, over the exercise price share of common stock underlying such SAR.

The per share fair value of each SAR was estimated on the grant date under the Black-Scholes option valuation model and re-valued as of August 31, 2020 using the following assumptions:

Expected life	4 years
Risk-free rate	0.24%
Volatility	35%
Dividend yield	0.00%

The following is a summary of the Company's outstanding balance of SAR's as of the fiscal year ended August 31, 2022:

	Number of Stock Appreciation Rights Outstanding	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)	Aggregate Intrinsic Value
Balance as of August 31, 2021	88,623	$ 27.00	9	1,740
Granted	—	—		
Exercised	—	—		—
Forfeited	(1,697)	$ 27.00		
Balance as of August 31, 2022	86,926	$ 27.00	8	—
Vested and expected to vest as of August 31, 2022	86,926	$ 27.00	8	—
Exercisable as of August 31, 2022	75,134	$ 27.00	8	—

(amounts in thousands except unit and per unit and share and per share amounts)

Aggregate intrinsic value of the Leverage Restoration SARs was determined using the Company's closing stock price of $11.90 and $46.63 less the applicable weighted-average exercise price on August 31, 2022 and August 31, 2021, respectively.

During the fiscal year ended August 31, 2022, 2021 and 2020 the Company recorded share-based compensation expense of ($1.5) million, $0.7 million and $0.9 million, respectively, for Leverage Restoration SARs. As of August 31, 2022 and 2021, the accrued liability associated with Leverage Restoration SARs was $0.1 million and $1.6 million, respectively.

New Restricted Stock Awards and Restricted Stock Units

Subsequent to the IPO, the Company has granted Restricted Stock Awards ("RSAs") to select US employees and outside directors and Restricted Stock Units ("RSUs") to select international employees. While substantively the same from an economic standpoint, the RSUs represent the right to receive shares of the Company's common stock as they vest; however, the holder of an RSU has no rights as a stockholder.

The following is a summary of the Company's RSAs and RSUs:

	Restricted Stock Awards	Restricted Stock Units	Weighted Average Grant Date Fair Value	Aggregate Intrinsic Value
Nonvested, August 31, 2021	619,383	36,177	$ 28.02	30,569
Granted	975,444	36,283	$ 28.45	
Vested	(161,684)	(11,728)	$ 27.00	—
Forfeited	(329,255)	(4,222)	$ 27.00	
Nonvested, August 31, 2022	1,103,888	56,510	$ 28.02	13,809

These awards generally vest annually over a 4-year requisite service period and are settled in shares of the Company's common stock. The Company has concluded that the RSAs and RSUs should be treated as equity classified share-based compensation awards. During the years ended August 31, 2022, 2021 and 2020, the Company recorded aggregate share-based compensation expense of $9.5 million, $6.8 million and $0.3 million, respectively, related to these RSAs and RSUs.

Share-based compensation expense has been recorded in the accompanying consolidated statements of operations as follows for the years ended August 31, 2022, 2021 and 2020:

	Year Ended August 31,		
	2022	2021	2020
Cost of subscription revenue	$ 349	$ 429	$ 415
Cost of maintenance and support revenue	35	29	28
Cost of professional services revenue	1,063	2,708	4,683
Research and development	1,746	1,992	4,128
Sales and marketing	1,133	3,209	5,581
General and administrative	5,198	4,510	6,273
Total share-based compensation expense	$ 9,524	$ 12,877	$ 21,108

Upon closing of the underwritten public offering of the Company's common stock on February 2, 2021, a market condition was achieved relating to Class D Restricted Common Stock, Leverage Restoration Options, Class D Phantom Stock and Leverage Restoration SARs. Accordingly, all remaining unrecognized share-based compensation expense associated with these awards totaling $1.2 million was immediately recognized on that date.

(amounts in thousands except unit and per unit and share and per share amounts)

During the year ended August 31, 2022, the Company modified the vesting conditions for a subset of its share-based awards. The modification resulted in incremental share-based compensation expense of $0.3 million that will be recognized over the remaining requisite service period of the awards.

(18) Segment Information and Information about Geographic Areas

The Company considers operating segments to be components of the Company for which separate financial information is available and evaluated regularly by the Company's chief operating decision maker in deciding how to allocate resources and in assessing performance. The chief operating decision maker for the Company is the chief executive officer. The chief executive officer reviews financial information presented on a consolidated basis, accompanied by information about revenue by product and geographic region, for purposes of allocating resources and evaluating financial performance. Accordingly, the Company has determined that it has a single operating segment.

Revenues by geographic area presented based upon the location of the customer are included in Note 2(g).

Property and equipment, net by geographic area are as follows:

	August 31, 2022	August 31, 2021
United States	$ 11,306	$ 12,814
All other	2,770	1,491
Total property and equipment, net	$ 14,076	$ 14,305

(19) Employee Benefit Plans

Defined Contribution Plan

The Company has a 401(k) plan covering all U.S.-based employees who meet certain eligibility requirements. Under the terms of the 401(k) plan, the employees can elect to make tax-deferred contributions to the 401(k) plan and the Company can make discretionary contributions. Under this plan, discretionary contributions of $7.8 million, $6.6 million, and $5.3 million were made by the Company for the years ended August 31, 2022, 2021, and 2020 respectively.

Other Long-Term Obligations

The Company accrues for long-term termination obligations earned by employees of its subsidiary in India. The termination obligation would be payable to the employee in the event of termination without cause and is based upon the employee's wage and years of service, and the applicable payment formula as dictated by statute. The liability is based on an actuarial estimate. The accrued obligation was $2.2 million and $1.8 million as of August 31, 2022 and 2021, respectively, and is included in other long-term liabilities in the accompanying consolidated balance sheets.

(20) Related-Party Transactions

Services Provided on Behalf of and by Accenture

As of August 31, 2022 and 2021, Accenture held 15.9% and 16.0% of the outstanding shares of common stock of the Company, respectively.

The Company provides certain professional services and software maintenance services to end customers as a subcontractor to Accenture as part of its typical revenue generating arrangements. During the years ended August 31, 2022, 2021 and 2020, the Company recognized immaterial amounts of revenue relating to services performed in this subcontractor capacity. In addition, the Company also engages Accenture to provide certain professional services on behalf of the Company as part of its typical revenue generating arrangements. During the years ended August 31, 2022, 2021 and 2020, the Company incurred immaterial expenditures relating to services performed by Accenture.

Revenue Contracts with Investors

The Company recognizes revenues from customers that invested in the Company's Class E Preferred Units during the year ended 2020 whose shares converted to common stock in the IPO. For the years ended August 31, 2022, 2021 and 2020, the Company recognized aggregate revenues of $32.1 million, $31.2 million and $18.7 million from these customers, respectively and deferred revenue of $4.4 million and $4.1 million for the years ended August 31, 2022 and 2021, respectively.

As of August 31, 2022 and August 31, 2021, the Company had outstanding accounts receivables due from these customers of $10.1 million and $5.0 million, respectively.

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

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our CEO and CFO, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, as of the end of the period covered by this Annual Report on Form 10-K. Based on such evaluation, our CEO and CFO have concluded that as of August 31, 2022, our disclosure controls and procedures are designed at a reasonable assurance level and are effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the rules and forms of the SEC, and that such information is accumulated and communicated to our management, including our CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act. Our management assessed the effectiveness of our internal control over financial reporting as of August 31, 2022 based on the criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management concluded that as of August 31, 2022, our internal control over financial reporting was effective. Our evaluation excluded Effisoft SAS and Prima Solutions Belgium SA ("Effisoft"), which were acquired on July 12, 2022. Our Consolidated Statement of Operations for the year ended August 31, 2022 included revenue of approximately $2.1 million and our Consolidated Balance Sheet as of August 31, 2022 included total assets of approximately $14.8 million attributable to Effisoft. In accordance with guidance issued by the Securities and Exchange Commission, companies are allowed to exclude acquisitions from their assessment of internal control over financial reporting during the first year subsequent to the acquisition while integrating the acquired operations.

This Annual Report on Form 10-K includes an attestation report of our independent registered public accounting firm regarding internal control over financial reporting, which appears in Part II, Item 8 of this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(d) and 15d-15(d) under the Exchange Act) during the period covered by this report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Limitations on the Effectiveness of Controls

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that the Company's disclosure controls and procedures or the Company's internal controls over financial reporting will prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected.

Item 9B. Other Information.

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this Item 10 will be contained in our definitive proxy statement to be filed with the SEC in connection with our 2023 Annual Meeting of Stockholders (the “Proxy Statement”), which is expected to be filed not later than 120 days after the end of our fiscal year ended August 31, 2022, and is incorporated herein by reference

Item 11. Executive Compensation.

The information required by this Item 11 will be set forth in the Proxy Statement and is incorporated herein by reference.

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

The information required by this Item 12 will be set forth in the Proxy Statement and is incorporated herein by reference.

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

The information required by this Item 13 will be set forth in the Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services.

Independent Registered Public Accounting Firm's Fees

The information required by this Item 14 will be set forth in the Proxy Statement and is incorporated herein by reference.
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PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a)

1. Financial Statements.

See the Index to the Consolidated Financial Statements in “Item 8. Financial Statements and Supplementary Data” of this Annual Report on Form 10-K, which is incorporated into this item by reference.

2. Financial Statement Schedules.

No financial statement schedules have been submitted because they are not required or are not applicable or because the information required is included in the financial statements or the notes thereto.

3. List of Exhibits.

See the Exhibit Index in Item 15(b) below, which is incorporated into this item by reference.

(b)

The exhibits listed in the following “Exhibit Index” are filed or incorporated by reference as part of this Annual Report on Form 10-K.

EXHIBIT INDEX

EXHIBIT NO.	DESCRIPTION OF EXHIBIT
3.1	Amended and Restated Certificate of Incorporation of Duck Creek (incorporated by reference to Exhibit 3.1 to the Registration Statement on Form S-8 (File No. 333-246116) filed on August 14, 2020 with the SEC)
4.1	Amended and Restated Bylaws of Duck Creek (incorporated by reference to Exhibit 3.2 to the Registration Statement on Form S-8 (File No. 333-246116) filed on August 14, 2020 with the SEC
4.2*	Description of Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934
10.1	Amended and Restatement Agreement to Credit Agreement, dated as of October 22, 2021, among Disco Topco Holdings (Cayman), L.P., as Holdings, Duck Creek Technologies LLC, as Borrower, Bank of America N.A., as Administrative Agent, Collateral Agent, L/C Issuer and Swing Line Lender, BofA Securities, Inc., Goldman Sachs Bank USA and JPMorgan Chase Bank, N.A., as Joint Lead Arrangers and Joint Bookrunners, and the other lenders from time to time party thereto (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q (File No. 001-39449) for the Quarter ended November 30, 2021, filed on January 13, 2022 with the SEC)
10.2†*	Duck Creek 2020 Omnibus Incentive Plan (as amended on July 22, 2022).
10.5†	Form of Restricted Stock Award Agreement (incorporated by reference to Exhibit 10.5 to the Company's Registration Statement on Form S-1 (File No. 333-240050), filed on July 23, 2020 with the SEC)
10.6†	Form of Non-Qualified Stock Option Award Agreement (Performance-Based Conversion Award) (incorporated by reference to Exhibit 10.6 to the Company's Registration Statement on Form S-1 (File No. 333-240050), filed on July 23, 2020 with the SEC)
10.7†	Form of Restricted Stock Award Agreement (Time-Based Conversion Award) (incorporated by reference to Exhibit 10.7 to the Company's Registration Statement on Form S-1 (File No. 333-240050), filed on July 23, 2020 with the SEC)
10.8†	Form of Non-Qualified Stock Option Award Agreement (Time-Based Conversion Award) (incorporated by reference to Exhibit 10.8 to the Company's Registration Statement on Form S-1 (File No. 333-240050), filed on July 23, 2020 with the SEC)
10.9†	Form of Restricted Stock Award Agreement (IPO Grant) (incorporated by reference to Exhibit 10.9 to the Company's Registration Statement on Form S-1/A (File No. 333-240050), filed on August 7, 2020 with the SEC)
10.10	Form of Indemnification Agreement between Duck Creek and each of its Executive Officers and Directors (incorporated by reference to Exhibit 10.9 to the Company's Registration Statement on Form S-1 (File No. 333-240050), filed on July 23, 2020 with the SEC)
10.11	Stockholders' Agreement (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-39449) filed on August 20, 2020)
10.12	Registration Rights Agreement (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K (File No. 001-39449) filed on August 20, 2020)
10.13	Restrictive Covenants Side Letter (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K (File No. 001-39449) filed on August 20, 2020)
10.14†	Employment Agreement, dated as of August 1, 2016, by and between Duck Creek Technologies LLC and Michael Jackowski (incorporated by reference to Exhibit 10.12 to the Company's Registration Statement on Form S-1 (File No. 333-240050), filed on July 23, 2020 with the SEC)

10.15†	Employment Agreement, dated as of September 19, 2016, by and between Duck Creek Technologies LLC and Vincent Chippari (incorporated by reference to Exhibit 10.13 to the Company's Registration Statement on Form S-1 (File No. 333-240050), filed on July 23, 2020 with the SEC)
10.16†	Employment Agreement, dated as of August 1, 2016, by and between Duck Creek Technologies LLC and Matthew Foster (incorporated by reference to Exhibit 10.14 to the Company's Registration Statement on Form S-1 (File No. 333-240050), filed on July 23, 2020 with the SEC)
10.17†	Employment Agreement, dated as of February 26, 2022, by and between Duck Creek Technologies LLC and Kevin R. Rhodes (incorporated by reference to Exhibit 10.1 to Company's Quarterly Report on Form 10-Q (File No. 001-39449) for the Quarter ended February 26, 2022, filed on April 7, 2022 with the SEC)
10.18†	Amendment to Employment Agreement, dated as of March 31, 2022, by and between Duck Creek Technologies LLC and Eugene Van Biert, Jr. (incorporated by reference to Exhibit 10.2 to Company's Quarterly Report on Form 10-Q (File No. 001-39449) for the Quarter ended February 26, 2022, filed on April 7, 2022 with the SEC)
10.19†	Employment Agreement, dated as of November 6, 2016, by and between Duck Creek Technologies LLC and Eugene Van Biert, Jr. (incorporated by reference to Exhibit 10.3 to Company's Quarterly Report on Form 10-Q (File No. 001-39449) for the Quarter ended February 26, 2022, filed on April 7, 2022 with the SEC)
10.20†	Employment Agreement, dated as of August 3, 2020, by and between Duck Creek Technologies LLC and Eva F. Harris (formerly Huston) (incorporated by reference to Exhibit 10.4 to Company's Quarterly Report on Form 10-Q (File No. 001-39449) for the Quarter ended February 26, 2022, filed on April 7, 2022 with the SEC)
10.21†	Agreement and General Release of Claims by and between Eva Harris and Duck Creek Technologies LLC, dated August 30, 2022 (incorporated by reference to Exhibit 10.1 to Company's Current Report on Form 8-K (File No. 001-39449), filed on September 2, 2022 with the SEC)
21.1*	List of Subsidiaries
23.1*	Consent of KPMG LLP, Independent Registered Public Accounting Firm
24.1*	Power of Attorney (included on signature page to this Form 10-K)
31.1*	Certification of Principal Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Certification of Principal Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1*	Certifications of Principal Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2*	Certification of Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File 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	The cover page for the Company's Quarterly Report on Form 10-Q has been formatted in Inline XBRL and contained in Exhibit 101

* Filed herewith.

† Compensatory plan or arrangement.

Item 16. Form 10-K Summary

None.

SIGNATURES

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

Duck Creek Technologies, Inc.

Date: October 28, 2022	By:	/s/ Michael A. Jackowski
		Michael A. Jackowski
		Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Michael Jackowski, Kevin Rhodes and Christopher Stone, and each of them acting individually, as his or her true and lawful attorneys-in-fact and agents, each with full power of substitution, for him in any and all capacities, to sign any and all amendments to this annual report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

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 in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Michael A. Jackowski Michael A. Jackowski	Chief Executive Officer (principal executive officer and director)	October 28, 2022
/s/ Kevin R. Rhodes Kevin R. Rhodes	Chief Financial Officer (principal financial officer and principal accounting officer)	October 28, 2022
/s/ William Bloom William Bloom	Director	October 28, 2022
/s/ Kathy Crusco Kathy Crusco	Director	October 28, 2022
/s/ Julie Dodd Julie Dodd	Director	October 28, 2022
/s/ Talvis Love Talvis Love	Director	October 28, 2022
/s/ Roy Mackenzie Roy Mackenzie	Director	October 28, 2022
/s/ Stuart Nicoll Stuart Nicoll	Director	October 28, 2022
/s/ Sunil Rajasekar Sunil Rajasekar	Director	October 28, 2022
/s/ Francis Pelzer Francis Pelzer	Director	October 28, 2022
/s/ Jason Wright Jason Wright	Director	October 28, 2022