



THE DESCARTES SYSTEMS GROUP INC.
ANNUAL REPORT

US GAAP FINANCIAL RESULTS FOR THE 2022 FISCAL YEAR

TABLE OF CONTENTS

MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS	3
OVERVIEW	6
CONSOLIDATED OPERATIONS	10
QUARTERLY OPERATING RESULTS	17
LIQUIDITY AND CAPITAL RESOURCES	18
COMMITMENTS, CONTINGENCIES AND GUARANTEES	21
OUTSTANDING SHARE DATA	22
APPLICATION OF CRITICAL ACCOUNTING POLICIES AND ESTIMATES	23
CHANGE IN / INITIAL ADOPTION OF ACCOUNTING POLICIES	25
CONTROLS AND PROCEDURES.....	27
TRENDS / BUSINESS OUTLOOK	27
CERTAIN FACTORS THAT MAY AFFECT FUTURE RESULTS.....	31
MANAGEMENT’S REPORT ON FINANCIAL STATEMENTS AND INTERNAL CONTROL OVER FINANCIAL REPORTING.....	45
CONSOLIDATED BALANCE SHEETS	50
CONSOLIDATED STATEMENTS OF OPERATIONS	51
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME	52
CONSOLIDATED STATEMENTS OF SHAREHOLDERS’ EQUITY	53
CONSOLIDATED STATEMENTS OF CASH FLOWS.....	54
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS.....	55
CORPORATE INFORMATION	91

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Our Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") contains references to Descartes using the words "we," "us," "our" and similar words and the reader is referred to using the words "you," "your" and similar words.

This MD&A also refers to our fiscal years. Our fiscal year commences on February 1st of each year and ends on January 31st of the following year. Our fiscal year that we are reporting on in this MD&A, which ended on January 31, 2022, is referred to as the "current fiscal year," "fiscal 2022," "2022" or using similar words. Our previous fiscal year, which ended on January 31, 2021, is referred to as the "previous fiscal year," "fiscal 2021," "2021" or using similar words. Other fiscal years are referenced by the applicable year during which the fiscal year ends. For example, 2023 refers to the annual period ending January 31, 2023 and the "fourth quarter of 2023" refers to the quarter ending January 31, 2023.

This MD&A, which is prepared as of March 2, 2022, covers our year ended January 31, 2022, as compared to years ended January 31, 2021 and 2020. You should read the MD&A in conjunction with our audited consolidated financial statements for 2022 that appear elsewhere in this Annual Report to Shareholders.

We prepare and file our consolidated financial statements and MD&A in United States ("US") dollars and in accordance with US generally accepted accounting principles ("GAAP"). All dollar amounts we use in the MD&A are in US currency, unless we indicate otherwise.

We have prepared the MD&A with reference to the Form 51-102F1 MD&A disclosure requirements established under National Instrument 51-102 "Continuous Disclosure Obligations" ("NI 51-102") of the Canadian Securities Administrators.

Additional information about us, including copies of our continuous disclosure materials such as our annual information form, is available on our website at <http://www.descartes.com>, through the EDGAR website at <http://www.sec.gov> or through the SEDAR website at <http://www.sedar.com>.

As of the date of this MD&A, the conflict between Russia and the Ukraine (the "Ukraine Conflict") is resulting in significant uncertainty within the global economy. Although we have very limited customer and other direct business dealings within either of Russia or the Ukraine, the recent escalation in conflict between the countries could impact economic and trade activity across Europe and perhaps worldwide as trade lanes and supply chains are impacted. Russia is a major supplier of oil and gas to numerous countries and a disruption in that supply could impact economic activity and transportation costs and general transportation availability on a global basis. In addition, the global impact of the extensive trade sanctions and financial controls related to Russia, Belarus or other countries are difficult to assess at the current time.

As of the date of this MD&A, the world also continues to experience a global pandemic related to the spread of the COVID-19 virus (the "Pandemic"). Businesses in many countries around the globe, including Canada, the United States and other countries in which we operate, have been required to close, or materially alter, their day-to-day operations due to government-ordered or recommended shut-downs and/or restrictions on individuals and businesses which may impact the operations of those businesses. In our own case, we have implemented measures that allow our employees to work remotely from home locations and for us to continue to operate our business and service our customers. The expected future impact of the Pandemic and various public health protection measures, including travel restrictions, on the business of our customers, and the ongoing demand of those customers for our products and services, is still uncertain at this time, in part due to the uncertainty of the duration and scope of such restrictions on a geography-by-geography basis. As of the date of this MD&A, and consistent with the comments we made in our MD&A from recent quarters, we continue to observe some customers with reduced shipment volumes across various modes of transportation and we are aware of some customers who have reduced or temporarily suspended operations or are otherwise experiencing financial hardship in their business

that may temporarily or permanently impact their demand for our products and services. However, at the same time we have seen several other areas of our business where shipment and order volumes have remained stable or, in many cases, have seen increased volumes as a result of the Pandemic.

We remain well positioned to adjust to market conditions to assist our customers as they work to manage their transportation, logistics and supply chain processes during the Pandemic. As noted above, we have been able to transition our workforce such that the majority of our workforce can work remotely and continue to service and support our customers and ensure the uninterrupted availability of our various solutions, most of which are delivered by way of a software-as-a-service or cloud-based delivery model. In addition, the nature of the products and services that we provide to the transportation and logistics community have been classified as an “essential service” in the majority of the markets in which we have personnel located which allows us, to the extent necessary, to have requisite personnel safely attend at our various data-centers and hosting facilities to ensure the continuity of our services under state-of-emergency and shelter-in-place orders that may be in place in various jurisdictions globally.

Certain statements made in this Annual Report to Shareholders, constitute forward-looking information for the purposes of applicable securities laws (“forward-looking statements”), including, but not limited to: statements in the “Trends / Business Outlook” section and statements regarding our expectations concerning future revenues and earnings, including potential variances from period to period; our assessment of the current and future potential impact of both the Ukraine Conflict and the Pandemic and related public health protection measures on our business; results of operations and financial condition; our expectations regarding the cyclical nature of our business; mix of revenues and potential variances from period to period; our plans to focus on generating services revenues yet to continue to allow customers to elect to license technology in lieu of subscribing to services; our expectations on losses of revenues and customers; our baseline calibration; our ability to keep our operating expenses at a level below our baseline revenues; our future business plans and business planning process; allocation of purchase price for completed acquisitions; our expectations regarding future restructuring charges and cost-reduction activities; expenses, including amortization of intangible assets and stock-based compensation; goodwill impairment tests and the possibility of future impairment adjustments; capital expenditures; acquisition-related costs; our liability with respect to various claims and suits arising in the ordinary course; any commitments referred to in the “Commitments, Contingencies and Guarantees” section of this MD&A; our intention to actively explore future business combinations and other strategic transactions; our liability under indemnification obligations; our reinvestment of earnings of subsidiaries back into such subsidiaries; our dividend policy; the sufficiency of capital to meet working capital, capital expenditure, debt repayment requirements and our anticipated growth strategy; our ability to raise capital; our adoption of certain accounting standards; and other matters related to the foregoing. When used in this document, the words “believe,” “plan,” “expect,” “anticipate,” “intend,” “continue,” “may,” “will,” “should” or the negative of such terms and similar expressions are intended to identify forward-looking statements. These forward-looking statements are subject to risks and uncertainties and are based on assumptions that may cause future results to differ materially from those expected. The material assumptions made in making these forward-looking statements include the following: Descartes’ ability to successfully identify and execute on acquisitions and to integrate acquired businesses and assets, and to predict expenses associated with and revenues from acquisitions; the impact of network failures, information security breaches or other cyber-security threats; disruptions in the movement of freight and a decline in shipment volumes including as a result of the Ukraine Conflict or the Pandemic or other contagious illness outbreaks, a deterioration of general economic conditions or instability in the financial markets accompanied by a decrease in spending by our customers; global shipment volumes continuing to increase at levels consistent with the average growth rates of the global economy; countries continuing to implement and enforce existing and additional customs and security regulations relating to the provision of electronic information for imports and exports; countries continuing to implement and enforce existing and additional trade restrictions and sanctioned party lists with respect to doing business with certain countries, organizations, entities and individuals; our continued operation of a secure and reliable business network; the continued availability of the data and content that is utilized in the delivery of services made available over our network; relative stability of currency exchange rates and interest rates; equity and debt markets continuing to provide us with access to capital; our ability to develop solutions that keep pace with the continuing changes in technology, and our continued compliance with third party intellectual property rights. While management believes these assumptions to be reasonable under the circumstances, they may prove to be inaccurate. Such forward-looking statements also involve known and unknown risks,

uncertainties and other factors that may cause our actual results, performance or achievements of, or developments in our business or industry, to differ materially from the anticipated results, performance or achievements or developments expressed or implied by such forward-looking statements. Such factors include, but are not limited to, the factors discussed under the heading “**Certain Factors That May Affect Future Results**” in this MD&A and in other documents filed with the Securities and Exchange Commission, the Ontario Securities Commission and other securities commissions across Canada from time to time. If any of such risks actually occur, they could materially adversely affect our business, financial condition or results of operations. In that case, the trading price of our common shares could decline, perhaps materially. Readers are cautioned not to place undue reliance upon any such forward-looking statements, which speak only as of the date made. Forward-looking statements are provided for the purpose of providing information about management’s current expectations and plans relating to the future. Readers are cautioned that such information may not be appropriate for other purposes. Except as required by applicable law, we do not undertake or accept any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements to reflect any change in our expectations or any change in events, conditions, assumptions or circumstances on which any such statements are based.

OVERVIEW

We use technology and networks to simplify complex business processes. We are primarily focused on logistics and supply chain management business processes. Our solutions are predominantly cloud-based and are focused on improving the productivity, performance and security of logistics-intensive businesses. Customers use our modular, software-as-a-service ("SaaS") and data solutions to route, schedule, track and measure delivery resources; plan, allocate and execute shipments; rate, audit and pay transportation invoices; access and analyze global trade data; research and perform trade tariff and duty calculations; file customs and security documents for imports and exports; and complete numerous other logistics processes by participating in a large, collaborative multi-modal logistics community. Our pricing model provides our customers with flexibility in purchasing our solutions either on a subscription, transactional or perpetual license basis. Our primary focus is on serving transportation providers (air, ocean and truck modes), logistics service providers (including third-party logistics providers, freight forwarders and customs brokers) and distribution-intensive companies for which logistics is either a key or a defining part of their own product or service offering, or for which our solutions can provide an opportunity to reduce costs, improve service levels, or support growth by optimizing the use of assets and information.

The Pandemic continues to have an impact on global trade. Since the start of the Pandemic in March 2020, we have observed some reduced shipment volumes across various modes of transportation and are aware of some customers who have reduced or temporarily suspended operations or are otherwise experiencing financial hardship. However, at the same time we have seen several other areas of our business where shipment and order volumes have remained stable or, in some cases, have seen increased volumes as a result of the Pandemic. We don't know what the impact of these events will be on overall global trade volumes and the use of Descartes' products and services by its customers and whether an impact will only be temporary or may continue for an extended period of time. It is also not clear at this time whether, as a result of the Pandemic and

related events, companies and/or consumers will alter trading, manufacturing and/or buying patterns over the longer-term from the patterns we have observed in the global economy in the past.

The Market

Logistics is the management of the flow of resources between a point of origin and a point of destination – processes that move items (such as goods, people, information) from point A to point B. Supply chain management is broader than logistics and includes the sourcing, procurement, conversion and storage of resources for consumption by an enterprise. Logistics and supply chain management have been evolving over the past several years as companies are increasingly seeking automation and real-time control of their supply chain activities. We believe companies are looking for integrated solutions for managing inventory in transit, conveyance units, people, data and business documents.

We believe logistics-intensive organizations are seeking to reduce operating costs, differentiate themselves, improve margins, and better serve customers. Global trade and transportation processes are often manual and complex to manage. This is a consequence of the growing number of business partners participating in companies' global supply chains and a lack of standardized business processes.

Additionally, global sourcing, logistics outsourcing, imposition of additional customs and regulatory requirements and the increased rate of change in day-to-day business requirements are adding to the overall complexities that companies face in planning and executing in their supply chains. Whether a shipment is delayed at the border, a customer changes an order or a breakdown occurs on the road, there are increasingly more issues that can significantly impact the execution of fulfillment schedules and associated costs.

The rise of e-commerce has heightened these challenges for many suppliers with end-customers increasingly demanding narrower order-to-fulfillment periods, lower prices and greater flexibility in scheduling and rescheduling deliveries. End customers also want real-time updates on delivery status, adding considerable burden to supply chain management as process efficiency is balanced with affordable service.

In this market, the movement and sharing of data between parties involved in the logistics process is

equally important to the physical movement of goods. Manual, fragmented and distributed logistics solutions are often proving inadequate to address the needs of operators. Connecting manufacturers and suppliers to carriers on an individual, one-off basis is too costly, complex and risky for organizations dealing with many trading partners. Further, many of these solutions do not provide the flexibility required to efficiently accommodate varied processes for organizations to remain competitive. We believe this presents an opportunity for logistics technology providers to unite this highly fragmented community and help customers improve efficiencies in their operations.

As the market continues to change, we have been evolving to meet our customers' needs. While the rate of adoption of newer logistics and supply chain management technologies is increasing, a large number of organizations still have manual business processes. We have been educating our prospects and customers on the value of connecting to trading partners through our Global Logistics Network ("GLN") and automating, as well as standardizing, multi-party business processes. We believe that our target customers are increasingly looking for a single source, neutral, network-based solution provider who can help them manage the end-to-end shipment – from researching global trade information, to the booking of a shipment, to the tracking of that shipment as it moves, to the regulatory compliance filings to be made during the move and, finally, to the settlement and audit of the invoice.

Additionally, regulatory initiatives mandating electronic filing of shipment information with customs authorities require companies to automate aspects of their shipping processes to remain compliant and competitive. Our customs compliance technology helps shippers, transportation providers, freight forwarders and other logistics intermediaries to securely and electronically file shipment and tariff/duty information with customs authorities and self-audit their own efforts. Our technology also helps carriers and freight forwarders efficiently coordinate with customs brokers and agencies to expedite cross-border shipments. While many compliance initiatives started in the US, compliance has now become a global issue with significantly more international shipments crossing several borders on the way to their final destinations.

Increasingly, data and content have become central to supply chain planning and execution.

Complex international supply chains are affected by logistics service provider performance, capacity, and productivity, as well as regulatory frameworks such as free trade agreements. We believe our Global Trade Data, Trade Regulations, Free-Trade-Agreement, and duty rate and calculation solutions help customers improve their sourcing, landed cost, and transportation lane and provider selection processes.

Solutions

Descartes' Logistics Technology Platform unites a growing global community of logistics-focused parties, allowing them to transact business while leveraging a broad array of applications designed to help logistics-intensive businesses thrive.

The Logistics Technology Platform fuses our GLN, an extensive logistics network covering multiple transportation modes, with a broad array of modular, interoperable web and wireless logistics management solutions. Designed to help accelerate time-to-value and increase productivity and performance for businesses of all sizes, the Logistics Technology Platform leverages the GLN's multimodal logistics community to enable companies to quickly and cost-effectively connect and collaborate.

Descartes' GLN, the underlying foundation of the Logistics Technology Platform, manages the flow of data and documents that track and control inventory, assets and people in motion. Designed expressly for logistics operations, it is native to the particularities of different transportation modes and country borders. As a state-of-the-art messaging network with wireless capabilities, the GLN helps manage business processes in real-time and in-motion. Its capabilities go beyond logistics, supporting common commercial transactions, regulatory compliance documents, and customer specific needs.

The GLN extends its reach using interconnect agreements with other general and logistics-specific networks, to offer companies access to a wide array of trading partners. With the flexibility to connect and collaborate in unique ways, companies can effectively route or transform data to and from partners and deploy additional Descartes solutions on the GLN. The GLN allows "low tech" partners to act and respond with "high tech" capabilities and connect to the transient partners that exist in many logistics operations. This inherent adaptability creates opportunities to develop logistics business processes that can help

customers differentiate themselves from their competitors.

Descartes' Logistics Application Suite offers a wide array of modular, cloud-based, interoperable web and wireless logistics management applications. These solutions embody Descartes' deep domain expertise, not merely "check box" functionality. These solutions deliver value for a broad range of logistics-intensive organizations, whether they purchase transportation, run their own fleet, operate globally or locally, or work across air, ocean or ground transportation. Descartes' comprehensive suite of solutions includes:

- Routing, Mobile and Telematics;
- Transportation Management and e-commerce enablement;
- Customs & Regulatory Compliance;
- Trade Data;
- Global Logistics Network Services; and
- Broker & Forwarder Enterprise Systems.

The Descartes applications forming part of the Logistics Technology Platform are modular and interoperable to allow organizations the flexibility to deploy them quickly within an existing portfolio of solutions. Implementation is streamlined because these solutions use web-native or wireless user interfaces and are pre-integrated with the GLN. With interoperable and multi-party solutions, Descartes' solutions are designed to deliver functionality that can enhance a logistics operation's performance and productivity both within the organization and across a complex network of partners.

Descartes' expanding global trade content offering unites systems and people with trade information to enable organizations to work smarter by making more informed supply chain and logistics decisions. Our content solutions can help customers: research and analyze global trade movements, regulations and trends; reduce the risk of transacting with denied parties; increase trade compliance rates; optimize sourcing, procurement, and business development strategies; and minimize duty spend.

Descartes' GLN community members enjoy extended command of operations and accelerated time-to-value relative to many alternative logistics solutions. Given the inter-enterprise nature of logistics, quickly gaining access to partners is paramount. For this reason, Descartes has focused on growing a community that strategically attracts and retains relevant logistics parties. Upon joining the GLN community, many companies find that a

number of their trading partners are already members with an existing connection to the GLN. This helps to minimize the time required to integrate Descartes' logistics management applications and to begin realizing results. Descartes is committed to continuing to expand community membership. Companies that join the GLN community or extend their participation find a single place where their entire logistics network can exist regardless of the range of transportation modes, the number of trading partners or the variety of regulatory agencies.

Sales and Distribution

Our sales efforts are primarily directed towards two specific customer markets: (a) transportation companies and logistics service providers; and (b) manufacturers, retailers, distributors and mobile business service providers. Our sales staff is regionally based and trained to sell across our solutions to specific customer markets. In North America and Europe, we promote our products primarily through direct sales efforts aimed at existing and potential users of our products. In the Asia Pacific, Indian subcontinent, South America and African regions, we focus on making our channel partners successful. Channel partners for our other international operations include distributors, alliance partners and value-added resellers. During the ongoing period of the Pandemic we have been encouraged by the success of our sales organization to date in being able to continue to execute on sales efforts and prospecting through the use of online communication platforms and virtual meetings in place of face-to-face meetings and in person trade show events.

United by Design

Descartes' 'United By Design' strategic alliance program is intended to ensure complementary hardware, software and network offerings are interoperable with Descartes' solutions and work together seamlessly to solve multi-party business problems.

'United By Design' is intended to create a global ecosystem of logistics-intensive organizations working together to standardize and automate business processes and manage resources in motion. The program centers on Descartes' Open Standard Collaborative Interfaces, which provide a wide variety of connectivity mechanisms to integrate a broad spectrum of applications and services.

Descartes has partnering relationships with multiple parties across the following three categories:

- Technology Partners – Complementary hardware, software, network, and embedded technology providers that extend the functional breadth of Descartes' solution capabilities;
- Consulting Partners – Large system integrators and enterprise resource planning system vendors through to vertically specialized or niche consulting organizations that provide domain expertise and/or implementation services for Descartes' solutions; and
- Channel Partners (Value-Added Resellers) – Organizations that market, sell, implement and support Descartes' solutions to extend access and expand market share into territories and markets where Descartes might not have a focused direct sales presence.

Marketing

Our marketing efforts are focused on growing demand for our solutions and establishing Descartes as a thought leader and innovator across the markets we serve. Marketing programs are delivered through integrated initiatives designed to reach our target customer and prospect groups. These programs include digital and online marketing, partner-focused campaigns, proactive media relations, and direct corporate marketing efforts. These efforts have also historically included trade shows and in-person user group events, but those activities have been suspended during the Pandemic. It is anticipated that some level of in-person events will return to our marketing programs following the Pandemic, but it is uncertain at this point to what extent.

Fiscal 2022 and 2023 Highlights

On February 26, 2021, Descartes acquired all of the shares of VitaDex Solutions, LLC, doing business as QuestaWeb ("QuestaWeb"), a US-based provider of foreign trade zone and customs compliance solutions. The purchase price for the acquisition was approximately \$35.9 million, net of cash acquired, which was funded from cash on hand.

On May 7, 2021, Descartes acquired all of the shares of Portrix Logistics Software GmbH ("Portrix"), a provider of multimodal rate management solutions for logistics services providers. The purchase price for the acquisition was approximately \$25.2 million (EUR 20.7

million), net of cash acquired, which was funded from cash on hand.

On July 8, 2021, Descartes acquired all of the shares of GreenMile, LLC ("GreenMile"), a provider of cloud-based mobile route execution solutions for food, beverage, and broader distribution verticals. The purchase price for the acquisition was approximately \$29.2 million, net of cash acquired, which was funded from cash on hand, plus potential performance-based consideration of up to \$10.0 million based on GreenMile achieving revenue-based targets over the first two years post-acquisition.

On February 9, 2022, Descartes acquired all of the shares of NetCHB, LLC ("NetCHB"), a provider of customs filing solutions in the US. The purchase price for the acquisition was approximately \$38.7 million, net of cash acquired, which was funded from cash on hand, plus potential performance-based consideration of up to \$60.0 million based on NetCHB achieving revenue-based targets over the first two years post-acquisition.

As a result of the Pandemic, beginning in April 2020, many countries across the globe, including Canada, the United States and other countries in which we operate, ordered businesses to close or alter their day-to-day operations. In fiscal 2022, we've seen a mix of some countries going through various levels of lock-downs and travel restrictions in response to managing the ongoing Pandemic, while in other countries we have seen a trend towards more "opening" of office operations, travel, trade-shows and the like. We've continued our work-from-home arrangements with our employees while slowly re-introducing some level of limited travel and face to face meetings for employees in some jurisdictions and continue to monitor the impacts of these shut-downs on our customers.

CONSOLIDATED OPERATIONS

The following table shows, for the periods indicated, our results of operations in millions of dollars (except per share and weighted average share amounts):

<i>Year ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Total revenues	424.7	348.7	325.8
Cost of revenues	101.8	89.9	85.7
Gross margin	322.9	258.8	240.1
Operating expenses	154.0	129.2	128.5
Other charges	6.4	2.3	3.8
Amortization of intangible assets	59.1	55.9	55.5
Income from operations	103.4	71.4	52.3
Investment income	0.3	0.2	0.2
Interest expense	(1.1)	(1.2)	(4.4)
Income before income taxes	102.6	70.4	48.1
Income tax expense			
Current	14.8	3.8	5.3
Deferred	1.5	14.5	5.8
Net income	86.3	52.1	37.0
EARNINGS PER SHARE			
BASIC	1.02	0.62	0.45
DILUTED	1.00	0.61	0.45
WEIGHTED AVERAGE SHARES OUTSTANDING (thousands)			
BASIC	84,591	84,360	81,659
DILUTED	86,200	85,756	82,867
OTHER PERTINENT INFORMATION			
Total assets	1,185.4	1,063.3	942.6
Non-current financial liabilities	7.4	8.9	9.5

Total revenues consist of *license revenues*, *services revenues* and *professional services and other revenues*. License revenues are derived from perpetual licenses granted to our customers to use our software products. Services revenues are comprised of ongoing transactional and/or subscription fees for use of our services and products by our customers and maintenance, which include revenues associated with maintenance and support of our services and products. Professional services and other revenues are comprised of professional services revenues from consulting, implementation and training services related to our services and products, hardware revenues and other revenues.

Our total revenues were \$424.7, \$348.7 and \$325.8 million in 2022, 2021 and 2020, respectively. The increase in revenues in 2022 compared to 2021 was primarily due to growth in services revenues from new and existing customers which contributed an incremental \$48.3 million in revenue in 2022. While we saw growth across many lines of our business, services revenue growth in 2022 was driven by sales of our solutions that address the regulatory requirements for the United Kingdom's ("UK's") withdrawal from

the European Union ("Brexit"). The principal contributor to the balance of the increase in revenues in 2022 compared to the same period of 2021 was a full period of contribution from the acquisitions completed in 2021 (Peoplevox Limited "Peoplevox", Cracking Logistics Limited "Kontainers", and ShipTrack Inc. "ShipTrack", collectively, the "2021 Acquisitions").

The principal contributor to the increase in 2021 compared to 2020 was a full period of contribution from the acquisitions completed in 2020 (all of the assets of the businesses run by the Management Systems Resources Inc. group of companies (collectively, "Visual Compliance"), Core Transport Technologies NZ Limited ("CORE"), Tegmento AG and Contentis AG (collectively, "STEPcom") and BestTransport.com, Inc. ("BestTransport"), collectively, the "2020 Acquisitions"), including growth of new and existing customers which contributed an incremental \$9.9 million. The principal contributor to the balance of the increase in revenues in 2021 compared to 2020 was a partial period of contribution from the 2021 Acquisitions.

The following table provides additional analysis of our revenues by type (in millions of dollars and as a percentage of total revenues) generated over each of the periods indicated:

<i>Year ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
License revenues	5.1	5.1	7.5
<i>Percentage of total revenues</i>	1%	1%	2%
Services revenues	378.5	309.7	284.7
<i>Percentage of total revenues</i>	89%	89%	88%
Professional services and other	41.1	33.9	33.6
<i>Percentage of total revenues</i>	10%	10%	10%
Total revenues	424.7	348.7	325.8

Our **license revenues** were \$5.1 million, \$5.1 million and \$7.5 million in 2022, 2021 and 2020, respectively, representing 1%, 1% and 2% of total revenues in 2022, 2021 and 2020, respectively. While our sales focus has been on generating services revenues in our SaaS business model, we continue to see a market for licensing the products in our omni-channel retailing and home delivery logistics solutions. The amount of license revenues in a period is dependent on our customers' preference to license our solutions instead of purchasing our solutions as a service and we anticipate variances from period to period.

Our **services revenues** were \$378.5 million, \$309.7 million and \$284.7 million in 2022, 2021 and 2020, respectively, representing 89%, 89% and 88% of total revenues in 2022, 2021 and 2020, respectively. The increase in services revenues in 2022 compared to 2021 was primarily due to growth in services revenues from new and existing customers which contributed an incremental \$48.3 million in revenue in 2022. The growth in services revenues in 2022 was driven by sales of our solutions that address the regulatory requirements from Brexit. The principal contributor to the balance of the increase in services revenues in 2022 compared to 2021 was a full period of contribution from the 2021 Acquisitions.

The increase in 2021 compared to 2020 was primarily due to the inclusion of a full period of revenues from the 2020 Acquisitions, including growth of new and existing customers, which contributed an incremental \$10.4 million. The principal contributor to the balance of the increase in services revenues in 2021 compared to 2020 was a partial period of contribution from the 2021 Acquisitions.

Our **professional services and other** revenues were \$41.1 million, \$33.9 million and \$33.6 million in 2022, 2021 and 2020, respectively, representing 10% of total revenues in each of 2022, 2021, and 2020. The increase in professional services and other revenues in 2022 compared to 2021 was primarily due to

growth in revenue from new and existing customers which contributed an incremental \$3.4 million. The principal contributor to the balance of the increase in professional services and other revenues in 2022 compared to 2021 was a partial period of contribution from the 2022 Acquisitions.

The increase in 2021 compared to 2020 was primarily due to a partial period of contribution from the 2021 Acquisitions, which contributed \$1.7 million. The increase was partially offset by professional services projects that have been put on hold or delayed as a result of customer decisions that we attribute to various factors caused by the Pandemic, including possible staff shortages, decisions to reduce operating expenses, uncertainty on timing of new initiatives, and the like.

We operate in one business segment providing logistics technology solutions. The following table provides additional analysis of our revenues by geographic location of customer (in millions of dollars and as a percentage of total revenues):

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
United States	242.1	211.2	202.8
<i>Percentage of total revenues</i>	57%	61%	62%
Europe, Middle-East and Africa ("EMEA")	129.0	94.2	82.6
<i>Percentage of total revenues</i>	30%	27%	25%
Canada	36.1	29.4	27.3
<i>Percentage of total revenues</i>	9%	8%	9%
Asia Pacific	17.5	13.9	13.1
<i>Percentage of total revenues</i>	4%	4%	4%
Total revenues	424.7	348.7	325.8

Revenues from the United States were \$242.1 million, \$211.2 million and \$202.8 million in 2022, 2021 and 2020, respectively. The increase in 2022 as compared to 2021 was primarily a result of growth in services revenues from new and existing customers which contributed an incremental \$15.4 million in revenue. The growth in 2022 was primarily driven by sales of our data content solutions. The principal contributor to the balance of the increase in 2022 as compared to 2021 was the inclusion of a partial period of revenues from the 2022 Acquisitions.

The increase in 2021 as compared to 2020 was primarily a result of the inclusion of a full period of revenues from the 2020 Acquisitions, including growth of new and existing customers, which contributed an incremental \$8.5 million. The increase in 2021 compared to 2020 was partially offset by lower license revenues.

Revenues from the EMEA region were \$129.0 million, \$94.2 million and \$82.6 million in 2022, 2021, and 2020, respectively. The increase in 2022 compared to 2021 was primarily due to growth in services revenues from new and existing customers which contributed an incremental \$28.4 million in revenue, respectively. The growth in 2022 was primarily driven by sales of our solutions that address the regulatory requirements from Brexit. The principal contributor to the balance of the increase in revenues in 2022 as compared to 2021 was the inclusion of a full period of revenues from the 2021 Acquisitions.

The increase in 2021 compared to 2020 was primarily a result of a partial period of contribution from the 2021 Acquisitions, which contributed \$5.5 million. The principal contributor to the balance of the increase in 2021 compared to 2020 was the inclusion of a full period of revenues from the 2020 Acquisitions.

Revenues from Canada were \$36.1 million, \$29.4 million and \$27.3 million in 2022, 2021 and 2020, respectively. The increase in 2022 as compared to 2021 was primarily due to growth in services revenues from new and existing customers which contributed an incremental \$3.4 million in revenue. The principal contributor to the balance of the increase in revenues in 2022 as compared to 2021 was primarily a result of the inclusion of a full period of revenues from the 2021 Acquisitions.

The increase in 2021 compared to 2020 was primarily a result of increased license, hardware and professional services revenues in Canada from growth with new and existing customers which contributed \$1.4 million. The principal contributor to the balance of the increase in 2021 compared to 2020 was a partial period of contribution from the 2021 Acquisitions.

Revenues from the Asia Pacific region were \$17.5 million, \$13.9 million and \$13.1 million in 2022, 2021 and 2020, respectively. The increase in 2022 compared to 2021 was primarily a result of the inclusion of a full period of revenues from the 2021 Acquisitions, which contributed an incremental \$1.5 million. The principal contributor to the balance of the increase in revenues in 2022 as compared to 2021 was primarily due to growth in services revenues from new and existing customers.

The increase in 2021 compared to 2020 was primarily a result of the inclusion of a partial period of revenues from the 2021 Acquisitions.

The following table provides analysis of cost of revenues (in millions of dollars) and the related gross margins for the periods indicated:

<i>Year ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
<u>License</u>			
License revenues	5.1	5.1	7.5
Cost of license revenues	1.1	0.7	0.9
Gross margin	4.0	4.4	6.6
<i>Gross margin percentage</i>	78%	86%	88%
<u>Services</u>			
Services revenues	378.5	309.7	284.7
Cost of services revenues	78.0	69.3	65.5
Gross margin	300.5	240.4	219.2
<i>Gross margin percentage</i>	79%	78%	77%
<u>Professional services and other</u>			
Professional services and other revenues	41.1	33.9	33.6
Cost of professional services and other revenues	22.7	19.9	19.3
Gross margin	18.4	14.0	14.3
<i>Gross margin percentage</i>	45%	41%	43%
<u>Total</u>			
Revenues	424.7	348.7	325.8
Cost of revenues	101.8	89.9	85.7
Gross margin	322.9	258.8	240.1
<i>Gross margin percentage</i>	76%	74%	74%

Cost of license revenues consists of costs related to our sale of third-party technology, such as third-party map license fees and royalties.

Gross margin percentage for license revenues was 78%, 86% and 88% in 2022, 2021 and 2020, respectively. Our gross margin on license revenues is dependent on the proportion of our license revenues that involve third-party technology. Consequently, our gross margin percentage for license revenues is higher when a lower proportion of our license revenues attracts third-party technology costs, and vice versa.

Cost of services revenues consists of internal costs of running our systems and applications and other personnel-related expenses incurred in providing maintenance, including customer support.

Gross margin percentage for services revenues was 79%, 78% and 77% in 2022, 2021 and 2020, respectively. Our margins in 2022 compared to 2021 continue to be positively impacted by the growth in services revenue products with higher margins such as our content solutions.

Cost of professional services and other revenues consists of personnel-related expenses incurred in providing professional services, hardware installation as well as hardware costs.

Gross margin percentage for professional services and other revenues was 45%, 41% and 43% for 2022, 2021 and 2020, respectively. Hardware and other revenues typically have lower margins than our professional services revenues and as such variances in gross margin can occur from period to period as a result of the sales mix. Overall, the margin in 2022 compared to 2021 was positively impacted by an increased proportion of professional services revenues compared to hardware and other revenues.

The margin in 2021 compared to 2020 was negatively impacted by a decreased proportion of professional services revenues compared to hardware and other revenues.

Operating expenses, consisting of sales and marketing, research and development and general and administrative expenses, were \$154.0 million, \$129.2 million and \$128.5 million for 2022, 2021 and 2020, respectively. Operating expenses were higher in 2022 compared to 2021 primarily due to increased headcount-related costs, excluding costs from the 2021 and 2022 Acquisitions, which added approximately \$14.3 million. The principal contributor to the balance of the increase in operating expenses in 2022 compared to 2021 was a partial period of costs from the 2022 Acquisitions.

Operating expenses were higher in 2021 compared to 2020 primarily because of headcount-related costs from the 2021 Acquisitions, which contributed an incremental \$4.4 million partially offset by lower travel expenses, as a result of the Pandemic, which reduced expenses by approximately \$3.9 million.

The following table provides analysis of operating expenses (in millions of dollars and as a percentage of total revenues) for the periods indicated:

<i>Year ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Total revenues	424.7	348.7	325.8
Sales and marketing expenses	46.9	38.8	40.4
<i>Percentage of total revenues</i>	11%	11%	12%
Research and development expenses	62.6	54.1	53.5
<i>Percentage of total revenues</i>	15%	16%	16%
General and administrative expenses	44.5	36.3	34.6
<i>Percentage of total revenues</i>	10%	10%	11%
Total operating expenses	154.0	129.2	128.5
<i>Percentage of total revenues</i>	36%	37%	39%

Sales and marketing expenses include salaries, commissions, stock-based compensation and other personnel-related costs, bad debt expenses, travel expenses, advertising programs and services, and other promotional activities associated with selling and marketing our services and products. Sales and marketing expenses were \$46.9 million, \$38.8 million and \$40.4 million in 2022, 2021 and 2020, respectively. Sales and marketing expenses as a percentage of total revenues were 11% in 2022, 11% in 2021 and 12% in 2020, respectively. The increase in sales and marketing expenses in 2022 compared to 2021 was primarily due to increased headcount-related costs.

The decrease in sales and marketing expenses in 2021 compared to 2020 was primarily due to a decline of in-person marketing events and trade-shows, including the cancelation of our annual Descartes Evolution User Group, as a result of the Pandemic.

Research and development expenses consist primarily of salaries, stock-based compensation and other personnel-related costs of technical and engineering personnel associated with our research and product development activities, as well as costs for third-party outsourced development providers. We expensed all costs related to research and development in 2022, 2021 and 2020. Research and development expenses were \$62.6 million, \$54.1 million and \$53.5 million in 2022, 2021 and 2020, respectively. Research and development expenses as a percentage of total revenues were 15% in 2022, 16% in 2021 and 16% in 2020, respectively. The increase in research and development expenses in 2022 compared to 2021 was primarily due to headcount-related costs from the 2021 Acquisitions and 2022 Acquisitions.

The increase in research and development expenses in 2021 compared to 2020 was primarily due to headcount-related costs from the 2021 Acquisitions partially offset by a reduction in research and development expenses as a result of headcount reductions under the Fiscal 2021 Restructuring Plan.

General and administrative expenses consist primarily of salaries, stock-based compensation and other personnel-related costs of administrative personnel, as well as professional fees, insurance and other administrative expenses. General and administrative costs were \$44.5 million, \$36.3 million and \$34.6 million in 2022, 2021 and 2020, respectively. General and administrative expenses as a percentage of total revenues were 10%, 10% and 11% in 2022, 2021 and 2020, respectively. The increase in general and administrative expenses in 2022 compared to 2021 was primarily due to costs from the 2021 Acquisitions, increased headcount-related costs as well as increased stock-based compensation from fiscal 2021 and fiscal 2022 grants.

The increase in general and administrative expenses in 2021 compared to 2020 was primarily due to increased stock-based compensation expense from fiscal 2021 grants as well as headcount-related costs from the 2020 Acquisitions partially offset by a reduction in general and administrative expenses as a result of headcount reductions under the Fiscal 2021 Restructuring Plan.

Other charges consist primarily of acquisition-related costs with respect to completed and prospective acquisitions, contingent consideration adjustments and restructuring charges. Acquisition-related costs primarily include advisory services, brokerage services, administrative costs and retention bonuses, and relate to completed and prospective acquisitions. Contingent consideration adjustments relate to changes in the fair value estimate of contingent consideration. Restructuring costs relate to the integration of previously-completed acquisitions and other cost-reduction activities. Other charges were \$6.4 million, \$2.3 million and \$3.8 million in 2022, 2021 and 2020, respectively. The increase in other charges in 2022 compared to 2021 was primarily a result of contingent consideration adjustments of \$4.5 million in 2022. The decrease in other charges in 2021 compared to 2020 was primarily a result of contingent consideration adjustments in 2021.

Amortization of intangible assets is amortization of the value attributable to intangible assets, including customer agreements and relationships, non-compete covenants, existing technologies and trade names, in each case associated with acquisitions completed by us as of the end of each reporting period. Intangible assets with a finite life are amortized to income over their useful life. The amount of amortization expense in a fiscal period is dependent on our acquisition activities. Amortization of intangible assets was \$59.1 million, \$55.9 million and \$55.5 million in 2022, 2021 and 2020, respectively. Amortization expense increased in 2022 compared to 2021 primarily due the 2022 Acquisitions, which resulted in an incremental \$5.4 million of amortization expense. Amortization expense increased in 2021 compared to 2020 primarily due to a full period of amortization from the 2020 Acquisitions, which resulted in an incremental \$1.9 million of amortization expense.

We test the carrying value of our finite life intangible assets for recoverability when events or changes in circumstances indicate that there may be evidence of impairment. We write down intangible assets or asset groups with a finite life to fair value when the related undiscounted cash flows are not expected to allow for recovery of the carrying value. Fair value of intangible assets or asset groups is determined by discounting the expected related cash flows. No finite life intangible asset or asset group impairment has been identified or recorded for any of the fiscal periods reported.

Investment income was \$0.3 million, \$0.2 million and \$0.2 million in 2022, 2021 and 2020, respectively. Investment income is generally earned on excess cash balances.

Interest expense was \$1.1 million, \$1.2 million and \$4.4 million in 2022, 2021 and 2020, respectively. Interest expense is primarily comprised of interest expense on the amount borrowed and outstanding on our revolving debt facility, debt standby charges as well as the amortization of deferred financing charges. Interest expense decreased in 2022 compared to 2021 as a result of a lower average debt balance. Interest expense decreased in 2021 compared to 2020 as a result of lower average interest rates and a lower average debt balance.

Income tax expense is comprised of current and deferred income tax expense. Income tax expense for 2022, 2021 and 2020 was 16%, 26% and 23% of income before income taxes, respectively, or \$16.3 million, \$18.3 million and \$11.1 million, respectively. The income tax rate as a percentage of income before income taxes (the "effective tax rate") decreased in 2022 compared to 2021 primarily as a result of a release in valuation allowances on tax losses in EMEA carried forward from previous periods. In addition, the benefit of differences between the Canadian and foreign tax rates, the effect of tax rate changes in foreign jurisdictions also contributed to the decrease in income tax expense in 2022.

The income tax rate as a percentage of income before income taxes increased in 2021 compared to 2020 primarily as a result of an increase in non-deductible expenses and tax reserves partially offset by a recovery of income tax of previous periods.

Income tax expense – current was \$14.8 million, \$3.8 million and \$5.3 million in 2022, 2021 and 2020, respectively. Current income tax expense increased in 2022 compared to 2021 primarily due to a current tax recovery in 2021 related to a voluntary change in accounting for deferred revenue for income tax purposes in the United States elected by the Company.

Current income tax expense decreased in 2021 compared to 2020 primarily due to a voluntary change we elected to adopt in accounting for deferred revenue for income tax purposes in the United States. This change resulted in a decrease of \$9.3 million in current income tax expense in 2021 and a corresponding increase in the deferred income tax expense for the same period. This decrease was partially offset by an increase in income before tax in other jurisdictions as a result of growth in the business.

Income tax expense – deferred was \$1.5 million, \$14.5 million and \$5.8 million in 2022, 2021 and 2020, respectively. Deferred income tax expense decreased in 2022 compared to 2021 primarily due to additional deferred tax expense in 2021 related to a voluntary change in accounting for deferred revenue for income tax purposes in the United States elected by the Company as well as a release in valuation allowances recorded in 2022 related to tax losses in EMEA carried forward from previous periods.

Deferred income tax expense increased in 2021 compared to 2020 primarily due to a voluntary change we elected to adopt in accounting for deferred revenue for income tax purposes in the United States. This increase was partially offset by a release in valuation allowance for other jurisdictions.

Net income was \$86.3 million, \$52.1 million and \$37.0 million in 2022, 2021 and 2020 respectively. Net income in 2022 compared to 2021 was positively impacted by the growth in services revenues.

Net income in 2021 compared to 2020 was positively impacted by the 2020 Acquisitions, which contributed an incremental \$12.7 million to net income (excluding any interest costs on financing the acquisitions).

QUARTERLY OPERATING RESULTS

The following table provides an analysis of our unaudited operating results (in thousands of dollars, except per share and weighted average number of share amounts) for each of the quarters indicated:

	Fiscal 2021				Fiscal 2022			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Revenues	83,703	84,045	87,508	93,408	98,838	104,570	108,911	112,371
Gross margin	61,836	61,648	64,962	70,308	74,989	79,100	83,304	85,487
Operating expenses	31,638	30,828	31,695	34,957	37,236	37,656	39,374	39,653
Net income	11,047	10,542	13,308	17,203	18,421	23,176	25,491	19,194
Basic earnings per share	0.13	0.13	0.16	0.20	0.22	0.27	0.30	0.23
Diluted earnings per share	0.13	0.12	0.15	0.20	0.21	0.27	0.30	0.22
Weighted average shares outstanding (thousands):								
Basic	84,156	84,316	84,777	84,488	84,501	84,566	84,636	84,659
Diluted	85,456	85,753	85,917	85,959	86,045	86,128	86,328	86,341

Revenues over the comparative periods have been positively impacted by the six acquisitions that we have completed since the beginning of fiscal 2021 through the end of the fourth quarter of fiscal 2022. In addition, we have seen increased revenues as a result of an increase in transactions processed over our

GLN business document exchange, including the filing of regulatory documents resulting from Brexit, as well as an increase in subscriptions for our software solutions and data content. In the first two quarters of fiscal 2021, we observed a decline in revenues compared to our fourth quarter of fiscal 2020 which is primarily attributed to a decline in global shipments volumes and decreased demand for certain professional services, in both cases which we attribute to the observed impact of the Pandemic during that period. Subsequent to the first quarter of fiscal 2021, we observed a recovery in overall global shipment volumes as well as increased demand for professional services.

Our services revenues continue to have minor seasonal trends. In the first fiscal quarter of each year, we historically have seen slightly lower shipment volumes by air and truck which impact the aggregate number of transactions flowing through our GLN business document exchange. In the second fiscal quarter of each year, we historically have seen a slight increase in ocean services revenues as ocean carriers are in the midst of their customer contract negotiation period. In the third fiscal quarter of each year, we have historically seen shipment and transactional volumes at their highest. In the fourth fiscal quarter of each year, the various international holidays impact the aggregate number of shipping days in the quarter, and historically we have seen this adversely impact the number of transactions our network processes and, consequently, the amount of services revenues we receive during that period. In the second and fourth fiscal quarters of each year, we historically have seen a slight decrease in professional services revenues due to various international holidays and vacation seasons. Overall, the impact of seasonal trends has a relatively minor impact on our revenues quarter to quarter.

In the fourth quarter of 2022 revenues and gross margin increased compared to the third quarter of 2022 primarily due to growth in transaction and subscription revenues with new and existing customers which contributed an incremental \$2.3 million in revenues. However, in the fourth quarter of 2022 net income decreased compared to the third quarter of 2022 as operating expenses increased primarily due to increased headcount-related costs (which contributed an incremental \$0.4 million in operating expenses) and other charges increased (primarily a result of contingent consideration adjustments related to previously-completed acquisitions and a \$4.5 million increase in income tax expense) compared to the previous quarter.

LIQUIDITY AND CAPITAL RESOURCES

Cash. We had \$213.4 million and \$133.7 million in cash as at January 31, 2022 and January 31, 2021, respectively. All cash was held in interest-bearing bank accounts, primarily with major Canadian, US and European banks. The cash balance increased from January 31, 2021 to January 31, 2022 by \$79.7 million primarily due to cash generated from operations partially offset by cash used for acquisitions. Subsequent to January 31, 2022, we used \$38.7 million in cash to fund the acquisition of NetCHB.

Credit facility. The facility is a \$350.0 million revolving operating credit facility to be available for general corporate purposes, including the financing of ongoing working capital needs and acquisitions. With the approval of the lenders, the credit facility can be expanded to a total of \$500.0 million. The credit facility has a five-year maturity with no fixed repayment dates prior to the end of the five-year term ending January 2024. Borrowings under the credit facility are secured by a first charge over substantially all of Descartes' assets. Depending on the type of advance, interest rates under the revolving operating portion of the credit facility are based on the Canada or US prime rate, Bankers' Acceptance (BA), US dollar London Interbank Offered Rate (LIBOR) or the Secured Overnight Financing Rate (SOFR) plus an additional 0 to 250 basis points based on the ratio of net debt to adjusted earnings before interest, taxes, depreciation and amortization, as defined in the credit agreement. A standby fee of between 20 to 40 basis points will be charged on all undrawn amounts. The credit facility contains certain customary representations, warranties and guarantees, and covenants.

As at January 31, 2022, \$350.0 million of the revolving operating credit facility remained available for use. We were in compliance with the covenants of the credit facility as at January 31, 2022 and remain in compliance as of the date of this MD&A.

Short-form base shelf prospectus. On July 16, 2020, we filed the 2020 Base Shelf Prospectus, allowing us to offer and issue the following securities: (i) common shares; (ii) preferred shares; (iii) senior or subordinated unsecured debt securities; (iv) subscription receipts; (v) warrants; and (vi) securities comprised of more than one of the aforementioned common shares, preferred shares, debt securities, subscription receipts and/ or warrants offered together as a unit. These securities may be offered separately or together, in separate series, in amounts, at prices and on terms to be set forth in one or more shelf prospectus supplements. The aggregate initial offering price of securities that may be sold by us (or certain of our current or future shareholders) pursuant to the 2020 Base Shelf Prospectus during the 25-month period that the 2020 Base Shelf Prospectus, including any amendments thereto, remains valid is limited to an aggregate of \$1 billion. No securities have yet been sold pursuant to the 2020 Base Shelf Prospectus.

Working capital. As at January 31, 2022, our working capital surplus (current assets less current liabilities) was \$158.6 million. Current assets primarily include \$213.4 million of cash, \$41.7 million of current trade receivables and \$22.0 million of prepaid assets. Current liabilities primarily include \$56.8 million of deferred revenue, \$56.4 million of accrued liabilities and \$10.6 million of accounts payable. Our working capital has increased from January 31, 2021 to January 31, 2022 by \$59.8 million, primarily due to cash generated from operations partially offset by cash used for acquisitions.

Historically, we've financed our operations and met our capital expenditure requirements primarily through cash flows provided from operations, issuances of common shares and proceeds from debt. We anticipate that, considering the above, we have sufficient liquidity to fund our current cash requirements for working capital, contractual commitments, capital expenditures and other operating needs. We also believe that we have the ability to generate sufficient amounts of cash in the long term to meet planned growth targets and to fund strategic transactions. Should additional future financing be undertaken, the proceeds from any such transaction could be utilized to fund strategic transactions or for general corporate purposes, including the repayment of outstanding debt. We expect, from time to time, to continue to consider select strategic transactions to create value and improve performance, which may include acquisitions, dispositions, restructurings, joint ventures and partnerships, and we may undertake further financing transactions, including draws on our credit facility, other debt instruments or equity offerings, in connection with any such potential strategic transaction.

With respect to earnings of our non-Canadian subsidiaries, our intention is that these earnings will be reinvested in each subsidiary indefinitely. Of the \$213.4 million of cash as at January 31, 2022, \$67.6 million was held by our foreign subsidiaries, most significantly in the United States with lesser amounts held in other countries in the EMEA and Asia Pacific regions. To date, we have not encountered significant legal or practical restrictions on the abilities of our subsidiaries to repatriate money to Canada, even if such restrictions may exist in respect of certain foreign jurisdictions where we have subsidiaries. In the future, if we elect to repatriate the unremitted earnings of our foreign subsidiaries in the form of dividends, or if the shares of the foreign subsidiaries are sold or transferred, then we could be subject to additional Canadian or foreign income taxes, net of the impact of any available foreign tax credits, which would result in a higher effective tax rate. We have not provided for foreign withholding taxes or deferred income tax liabilities related to unremitted earnings of our non-Canadian subsidiaries, since such earnings are considered permanently invested in those subsidiaries or are not subject to withholding taxes.

The table set forth below provides a summary of cash flows for the periods indicated in millions of dollars:

<i>Year ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Cash provided by operating activities	176.1	131.2	104.3
Additions to property and equipment	(4.8)	(3.8)	(4.9)
Acquisition of subsidiaries, net of cash acquired	(90.3)	(48.4)	(292.1)
Proceeds from borrowing on credit facility	-	10.2	297.0
Credit facility and other debt repayments	(1.1)	(10.8)	(322.6)
Payment of debt issuance costs	(0.1)	-	(1.4)
Issuance of common shares, net of issuance costs	2.7	6.2	238.0
Payment of contingent consideration	-	-	(0.8)
Effect of foreign exchange rate on cash	(2.8)	4.7	(0.4)
Net change in cash	79.7	89.3	17.1
Cash, beginning of period	133.7	44.4	27.3
Cash, end of period	213.4	133.7	44.4

Cash provided by operating activities was \$176.1 million, \$131.2 million and \$104.3 million for 2022, 2021 and 2020, respectively. For 2022, the \$176.1 million of cash provided by operating activities resulted from \$86.3 million of net income, plus adjustments for \$77.0 million of non-cash items included in net income and plus \$12.8 million of cash generated from changes in our operating assets and liabilities. Cash provided by operating activities increased in 2022 compared to 2021 primarily due to the increase in net income adjusted for non-cash items as well as strong cash collections from customers.

For 2021, the \$131.2 million of cash provided by operating activities resulted from \$52.1 million of net income, plus adjustments for \$82.7 million of non-cash items included in net income and less \$3.6 million of cash used in changes in our operating assets and liabilities. Cash provided by operating activities increased in 2021 compared to 2020 primarily due to the increase in net income adjusted for non-cash items as well as strong cash collections from customers.

Additions to property and equipment were \$4.8 million, \$3.8 million and \$4.9 million in 2022, 2021 and 2020, respectively. Additions to property and equipment increased in 2022 compared to 2021 primarily due to investments in computing equipment and software to support our network and continue to enhance our security infrastructure. Additions to property and equipment decreased in 2021 compared to 2020 primarily due to the ongoing transition of property and equipment investment to cloud-based operating expenses.

Acquisition of subsidiaries, net of cash acquired were \$90.3 million, \$48.4 million and \$292.1 million in 2022, 2021 and 2020, respectively. Acquisitions in 2022 are related to QuestaWeb, Portrix and GreenMile. Acquisitions in 2021 related to Peoplevox, Containers and ShipTrack.

Proceeds from borrowing on credit facility were nil, \$10.2 million and \$297.0 million in 2022, 2021 and 2020, respectively. In 2021 the borrowings on our credit facility partially financed the acquisition of Peoplevox. In 2020 the borrowings on our credit facility financed the 2020 Acquisitions.

Credit facility and other debt repayments were \$1.1 million, \$10.8 million and \$322.6 million in 2022, 2021 and 2020, respectively.

Payment of debt issuance costs were \$0.1 million, nil and \$1.4 million in 2022, 2021 and 2020, respectively, and relate to costs paid in amending the terms of our credit facility agreement.

Issuance of common shares, net of issuance costs were \$2.7 million, \$6.2 million and \$238.0 million in 2022, 2021 and 2020, respectively. In 2022 the cash provided was primarily a result of the exercise of employee stock options. In 2021 the cash provided was primarily a result of the exercise of employee

stock options. In 2020, the cash provided was primarily a result of the June 2019 public offering of common shares.

COMMITMENTS, CONTINGENCIES AND GUARANTEES

Commitments

To facilitate a better understanding of our commitments, the following information is provided (in millions of dollars) in respect of our operating obligations as of January 31, 2022:

	Less than 1 year	1-3 years	4-5 years	More than 5 years	Total
Operating lease obligations	4.4	5.9	1.4	0.2	11.9

Lease Obligations

We are committed under non-cancelable operating leases for buildings, vehicles and computer equipment with terms expiring at various dates through 2029. The undiscounted future minimum amounts payable under these lease agreements are presented in the table above.

Other Obligations

Deferred Share Unit ("DSU") and Cash-settled Restricted Share Unit ("CRSU") Plans

As discussed in Note 2 to the audited consolidated financial statements for 2022 included in this Annual Report, we maintain DSU and CRSU plans for our directors and employees. Any payments made pursuant to these plans are settled in cash. For DSUs and CRSUs, the units vest over time and the liability recognized at any given consolidated balance sheet date reflects only those units vested at that date that have not yet been settled in cash. As such, we had an unrecognized aggregate amount for the unvested DSUs and CRSUs of nil and \$1.0 million, respectively, at January 31, 2022. The ultimate liability for any payment of DSUs and CRSUs is dependent on the trading price of our common shares. To partially offset our exposure to fluctuations in our stock price, we have entered into equity derivative contracts, including floating-rate equity forwards. As at January 31, 2022, we had equity derivatives for 252,011 Descartes common shares and a DSU liability for 252,011 Descartes common shares, resulting in no net exposure resulting from changes to our share price.

Contingencies

We are subject to a variety of other claims and suits that arise from time to time in the ordinary course of our business. The consequences of these matters are not presently determinable but, in the opinion of management after consulting with legal counsel, the ultimate aggregate liability is not currently expected to have a material effect on our results of operations or financial position.

Product Warranties

In the normal course of operations, we provide our customers with product warranties relating to the performance of our hardware, software and services. To date, we have not encountered material costs as a result of such obligations and have not accrued any liabilities related to such obligations in our consolidated financial statements.

Business combination agreements

In respect of our acquisitions of Containers, ShipTrack and GreenMile, up to \$35.6 million in cash may become payable if certain revenue performance targets are met in the two years following the acquisition. A balance of \$13.0 million is accrued related to the fair value of this contingent consideration as at January 31, 2022.

Guarantees

In the normal course of business, we enter into a variety of agreements that may contain features that meet the definition of a guarantee under ASC Topic 460, "Guarantees". The following lists our significant guarantees:

Intellectual property indemnification obligations

We provide indemnifications of varying scope to our customers against claims of intellectual property infringement made by third parties arising from the use of our products. In the event of such a claim, we are generally obligated to defend our customers against the claim and we are liable to pay damages and costs assessed against our customers that are payable as part of a final judgment or settlement. These intellectual property infringement indemnification clauses are not generally subject to any dollar limits and remain in force for the term of our license agreement with our customer, which license terms are typically perpetual. Historically, we have not encountered material costs as a result of such indemnification obligations.

Other indemnification agreements

In the normal course of operations, we enter into various agreements that provide general indemnities. These indemnities typically arise in connection with purchases and sales of assets, securities offerings or buy-backs, service contracts, administration of employee benefit plans, retention of officers and directors, membership agreements, customer financing transactions, and leasing transactions. In addition, our corporate by-laws provide for the indemnification of our directors and officers. Each of these indemnities requires us, in certain circumstances, to compensate the counterparties for various costs resulting from breaches of representations or obligations under such arrangements, or as a result of third party claims that may be suffered by the counterparty as a consequence of the transaction. We believe that the likelihood that we could incur significant liability under these obligations is remote. Historically, we have not made any significant payments under such indemnities.

In evaluating estimated losses for the guarantees or indemnities described above, we consider such factors as the degree of probability of an unfavorable outcome and the ability to make a reasonable estimate of the amount of loss. We are unable to make a reasonable estimate of the maximum potential amount payable under such guarantees or indemnities as many of these arrangements do not specify a maximum potential dollar exposure or time limitation. The amount also depends on the outcome of future events and conditions, which cannot be predicted. Given the foregoing, to date, we have not accrued any liability in our consolidated financial statements for the guarantees or indemnities described above.

OUTSTANDING SHARE DATA

We have an unlimited number of common shares authorized for issuance. As of March 2, 2022, we had 84,756,210 common shares issued and outstanding.

As of March 2, 2022, there were 1,319,279 options issued and outstanding, and 3,041,719 options remaining available for grant under all stock option plans.

As of March 2, 2022, there were 817,242 performance share units ("PSUs") and 410,980 restricted share units ("RSUs") issued and outstanding, with a potential of up to a further 162,775 PSUs being earned if a maximum 2.0 performance factor is achieved in respect of the outstanding PSU awards. Also, as of March 2, 2022, there were 875,761 units remaining available for grant under all performance and restricted share unit plans.

Our board of directors has adopted a shareholder rights plan (the "Rights Plan") to ensure the fair treatment of shareholders in connection with any take-over offer, and to provide our board of directors and shareholders with additional time to fully consider any unsolicited take-over bid. We did not adopt the Rights Plan in response to any specific proposal to acquire control of the Company. The Rights Plan was

approved by the TSX and was originally approved by our shareholders on May 18, 2005 and took effect as of November 29, 2004. An amended and restated Rights Plan was ratified by shareholders at our annual shareholders' meeting held on May 28, 2020. The Rights Plan requires re-approval by the shareholders every three years. We understand that the Rights Plan is similar to plans adopted by other Canadian companies and approved by their shareholders.

APPLICATION OF CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Our consolidated financial statements and accompanying notes are prepared in accordance with GAAP. Preparing financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. These estimates and assumptions are affected by management's application of accounting policies. Estimates are deemed critical when a different estimate could have reasonably been used or where changes in the estimates are reasonably likely to occur from period to period and would materially impact our financial condition or results of operations. Our accounting policies are discussed in Note 2 to the audited consolidated financial statements for 2022 included in this Annual Report.

Our management has discussed the development, selection and application of our critical accounting policies with the audit committee of the board of directors.

The following discusses the critical accounting estimates and assumptions that management has made under these policies and how they affect the amounts reported in the fiscal 2022 consolidated financial statements:

Revenue recognition

Revenue is recognized upon transfer of control of promised goods or services to customers in an amount that reflects the consideration we expect to receive in exchange for those goods or services. We enter into contracts that can include the delivery of various combinations of goods and/or services, which are generally capable of being distinct within the context of the contract and accounted for as separate performance obligations. A product or service is distinct if the customer can benefit from it on its own or together with other readily available resources and the promise to transfer the good or service is separately identifiable from other promises in the contractual arrangement with the customer. Non-distinct goods and services are combined with other goods or services until they are distinct as a bundle and therefore form a single performance obligation. The accounting for a contract with a customer that contains multiple performance obligations requires an allocation of the transaction price to each distinct performance obligation based on the determination of the standalone selling price ("SSP"). SSP for each distinct performance obligation in a customer contract is an estimate of the price that would be charged for the specific good or service if it was sold separately in similar circumstances and to similar customers. This estimate determines the amount of revenue recognized for each performance obligation in a customer contract. Revenue is recognized net of any taxes collected from customers, which are subsequently remitted to governmental authorities.

Our contracts with customers often include promises to transfer multiple goods and services to a customer. Determining whether goods and services are considered distinct performance obligations that should be accounted for separately versus together may require judgment. Judgment is also needed in assessing the ability to collect the corresponding receivables.

Significant assumptions and judgment are required to determine the SSP for each distinct performance obligation, which is needed to determine whether there is a discount that needs to be allocated based on the relative SSP of the various goods and services. When estimating the SSP, we make certain significant assumptions including the basis for stratification of the underlying population of customer contracts based on pricing practices for different goods or services, as appropriate. In order to determine the SSP of its promised goods or services, we conduct a regular analysis to determine whether various goods or services

have an observable standalone selling price. If the Company does not have an observable SSP for a particular good or service, then SSP for that particular good or service is estimated using reasonably available information and maximizing observable inputs with approaches including historical pricing, cost plus a margin, and the residual approach.

Impairment of long-lived assets

We test long-lived assets or asset groups, such as property and equipment and finite life intangible assets, for recoverability when events or changes in circumstances indicate that there may be impairment. An impairment loss is recognized when the estimate of undiscounted future cash flows generated by such asset or asset groups is less than the carrying amount. Measurement of the impairment loss is based on the present value of the expected future cash flows. Our impairment analysis contains estimates due to the inherent uncertainty relating to forecasting long-term estimated cash flows and determining the ultimate useful lives of asset or asset groups. Actual results will differ, which could materially impact our impairment assessment.

Goodwill

We test for impairment of goodwill at least annually on October 31st of each year and at any other time if any event occurs or circumstances change that would more likely than not reduce our fair value below our carrying amount. Our operations are analyzed by management and our chief operating decision maker as being part of a single industry segment providing logistics technology solutions. Accordingly, our goodwill impairment assessment is based on the allocation of goodwill to a single reporting unit.

Application of the goodwill impairment test requires judgment, including the identification of reporting units, assigning assets and liabilities to reporting units, assigning goodwill to reporting units, assessing qualitative factors and determining the fair value of each reporting unit. Judgments are required to estimate the fair value of reporting units and include estimating future cash flows, determining appropriate discount rates and other assumptions. Changes in these estimates and assumptions could materially affect the determination of fair value and/or goodwill impairment for each reporting unit.

Stock-based compensation plans

Stock Options

We maintain stock option plans for non-employee directors, officers, employees and other service providers. Options to purchase our common shares are granted at an exercise price equal to the fair market value of our common shares as of the date of grant. This fair market value is determined using the closing price of our common shares on the TSX on the day immediately preceding the date of the grant.

Employee stock options generally vest over a five-year period starting from the grant date and expire seven years from the grant date. Non-employee directors' and officers' stock options generally have quarterly vesting over a three to five-year period.

The fair value of employee stock option grants that are ultimately expected to vest are amortized to expense in our consolidated statement of operations based on the straight-line attribution method. The fair value of stock option grants is calculated using the Black-Scholes Merton option-pricing model. Expected volatility is based on historical volatility of our common stock and other factors. The risk-free interest rates are based on Government of Canada average bond yields for a period consistent with the expected life of the option in effect at the time of the grant. The expected option life is based on the historical life of our granted options and other factors.

Performance & Restricted Share Units

PSUs are measured at fair value estimated using a Monte Carlo Simulation approach and will be expensed to stock-based compensation expense over the vesting period. The ultimate number of PSUs that vest is based on the total shareholder return ("TSR") of our Company relative to the TSR of companies comprising a peer index group. TSR is calculated based on the weighted-average closing price of shares for the five trading days preceding the beginning and end of the performance period. Expected volatility is based on historical volatility of our common stock and other factors. The risk-free interest rates are based on the

Government of Canada average bond yields for a period consistent with the expected life of the PSUs at the time of the grant.

RSUs vest annually over a three-year period starting from the grant date and expire ten years from the grant date. We issue new shares from treasury upon the redemption of an RSU. RSUs are measured at fair value based on the closing price of our common shares for the day preceding the date of the grant and will be expensed to stock-based compensation expense over the vesting period.

Income Taxes

We have provided for income taxes based on information that is currently available to us. Tax filings are subject to audits, which could materially change the amount of deferred income tax assets and liabilities. We record deferred tax assets on our consolidated balance sheet for tax benefits that we currently expect to realize in future periods. Over recent years, we have determined that there was sufficient positive evidence such that it was more likely than not that we would utilize all or a portion of deferred tax assets in certain jurisdictions, to offset taxable income in future periods. This positive evidence included that we have earned cumulative income, after permanent differences, in each of these jurisdictions in at least the current and two preceding tax years. As such, over recent years, we have reduced our valuation allowances by amounts which represent the amount of tax loss carry forwards that we project will be used to offset taxable income in these jurisdictions over the foreseeable future. Any further change to increase or decrease the valuation allowance for the deferred tax assets would result in an income tax expense or income tax recovery, respectively, on the consolidated statements of operations.

Business Combinations

In connection with business acquisitions that we have completed, we identify and estimate the fair value of net assets acquired, including certain identifiable intangible assets (other than goodwill) and liabilities assumed in the acquisitions. Any excess of the purchase price over the estimated fair value of the net assets acquired is assigned to goodwill. Intangible assets include customer agreements and relationships, non-compete covenants, existing technologies and trade names. Our initial allocation of purchase price is generally preliminary in nature and may not be final for up to one year from the date of acquisition. The determination of the acquisition date fair value of the intangible assets acquired required us to make estimates and assumptions regarding projected revenues, earnings before interest, taxes, depreciation and amortization, technology migration rates, customer attrition rates and discount rates. Changes to these estimates and assumptions may result in material differences depending on the size of the acquisition completed.

CHANGE IN / INITIAL ADOPTION OF ACCOUNTING POLICIES

Recently adopted accounting pronouncements

In February 2016, the FASB issued Accounting Standards Update 2016-02, "Leases (Topic 842)" ("ASU 2016-02") and issued subsequent amendments to the initial guidance during 2018, collectively referred to as "ASC 842". These updates supersede the lease guidance in ASC Topic 840, "Leases" and require the recognition of lease assets and lease liabilities by lessees for most leases previously classified as operating leases under ASC Topic 840. Leases will continue to be classified as either operating or finance. ASC 842 was effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2018, which was our fiscal year that began on February 1, 2019 (fiscal 2020). The Company adopted ASC 842 as of February 1, 2019 using the cumulative effect method.

As permitted under ASC 842, we have elected to apply the practical expedient to carry forward our current assessments of whether a contract contains a lease, lease classification, remaining lease terms and amounts capitalized as initial direct costs. We have also elected to apply the practical expedient not to recognize right-of-use (ROU) assets and lease liabilities for short-term leases that have a lease term of 12 months or less. The adoption of ASC 842 resulted in an increase to ROU assets and lease liabilities of

\$10.4 million as of February 1, 2019. The adoption of ASC 842 did not have a material impact on either our consolidated statement of operations or our consolidated statement of cash flows.

In June 2016, the FASB issued Accounting Standards Update 2016-13, "Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments" ("ASU 2016-13") and issued subsequent amendments to the initial guidance during the 2019 calendar year, collectively referred to as "ASC 326". ASC 326 requires the measurement and recognition of expected credit losses for financial assets held at amortized cost. ASC 326 replaces the existing incurred loss impairment model with an expected loss model which requires the use of forward-looking information to calculate credit loss estimates. ASC 326 was effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2019, which was our fiscal year that began on February 1, 2020 (fiscal 2021).

The Company is exposed to credit losses primarily through its trade accounts receivable and contract assets. The provision for credit losses is determined utilizing a model of historical losses data. In estimating the provision for credit losses, we considered the age of the receivable, our historical write-offs and the historical creditworthiness of the customer, among other factors. Should any of these factors change, the estimates made by us will also change accordingly, which could affect the level of our future provisions. The Company adopted ASC 326 as of February 1, 2020 using the cumulative effect method and therefore the comparative information has not been restated. The adoption of ASC 326 did not have a material impact on our results of operations or disclosures.

In January 2017, the FASB issued Accounting Standards Update 2017-04, "Intangibles – Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment" ("ASU 2017-04"). ASU 2017-04 simplifies how an entity is required to test goodwill for impairment. ASU 2017-04 was effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2019, which was our fiscal year that began on February 1, 2020 (fiscal 2021). The Company adopted this guidance in the first quarter of fiscal 2021. The adoption of this guidance did not have a material impact on our results of operations or disclosures.

In August 2018, the FASB issued Accounting Standards Update 2018-15, "Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract" ("ASU 2018-15"). ASU 2018-15 aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. ASU 2018-15 was effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2019, which was our fiscal year that began on February 1, 2020 (fiscal 2021). The Company adopted this guidance in the first quarter of fiscal 2021. The adoption of this guidance did not have a material impact on our results of operations or disclosures.

In December 2019, the FASB issued Accounting Standards Update 2019-12, "Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes" ("ASU 2019-12"). ASU 2019-12 simplifies how an entity accounts for income taxes. ASU 2019-12 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2020, which is our fiscal year that began on February 1, 2021 (fiscal 2022). The Company adopted this guidance in the first quarter of fiscal 2022. The adoption of this guidance did not have a material impact on our results of operations or disclosures.

Recently issued accounting pronouncements

In October 2021, the FASB issued Accounting Standards Update 2021-08, "Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers" ("ASU 2021-08"). ASU 2021-08 provides guidance on how to recognize and measure acquired contract assets and liabilities from revenue contracts in a business combination. ASU 2021-08 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2022, which will be our fiscal year beginning February 1, 2023 (fiscal 2024). Early adoption is permitted. The Company will adopt this guidance in the first quarter of fiscal 2024. The adoption of this guidance is not expected to have a material impact on our results of operations or disclosures.

CONTROLS AND PROCEDURES

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, management evaluated our disclosure controls and procedures (as defined in National Instrument 52-109 Certification of Disclosure in Issuers' Annual and Interim Filings) as of January 31, 2022. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, management assessed the effectiveness of our internal control over financial reporting (as defined in National Instrument 52-109 Certification of Disclosure in Issuers' Annual and Interim Filings) as of January 31, 2022, based on criteria established in "Internal Control – Integrated Framework" (2013), issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on the assessment, our Chief Executive Officer and Chief Financial Officer concluded that, as of January 31, 2022, our internal control over financial reporting was effective.

During the period beginning on November 1, 2021 and ended on January 31, 2022, no changes were made to the Company's internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

TRENDS / BUSINESS OUTLOOK

This section discusses our outlook for fiscal 2023 and in general as of the date of this MD&A and contains forward-looking statements.

The impact of the recent escalation of the Ukraine Conflict on our customers and suppliers, on the global economy in general and on our business specifically is uncertain at this time. While we have limited direct business dealings in either Russia or the Ukraine, it's probable that the Ukraine Conflict, the political and economic measures taken by other countries in response to the Ukraine Conflict and the potential retaliatory actions that Russia or other countries might take in response to these political and economic measures could have a material impact on the global economy, global trade, global fuel prices and/or the individual economies of countries that may be dependent on Russia for oil and gas supplies and in which we may have significant business dealings, such as Germany. Each of these consequences could impact the level of usage and/or demand for our products and services and our resulting revenues. In addition, it has been speculated that retaliatory actions by Russia or other countries to economic sanctions could include widespread cyber-attacks. Any such attacks, if successful, could adversely impact our business or the businesses of our customers and suppliers.

The impact of the Pandemic on global trade both in the short-term and over the longer-term continues to be uncertain at this time. As discussed in previous quarterly versions of our MD&A, during the period of the Pandemic we had observed some reduced shipment volumes across various modes of transportation, particularly in air cargo, and were aware of some customers who reduced or temporarily suspended operations during the Pandemic or otherwise experienced financial hardship as a result of the Pandemic. Although we have come to understand that the impact of the Pandemic will be felt in waves at various times, as the time of this MD&A, we have observed that shipment volumes and general economic activity in our industry have largely returned to what we would consider "pre-Pandemic" levels. We make this observation recognizing that some countries around the world will continue to come in and out of government-mandated business shutdowns as they struggle with further waves of infection relating to the Pandemic. Given this ongoing uncertainty, we don't know what the impact of these events will be on

overall global trade volumes on a quarter to quarter basis may be, or over the longer-term and how that in turn may impact the use of Descartes' products and services by its customers and whether such an impact will only be temporary or may continue for an extended period of time. It also remains unclear at this time whether, as a result of the Pandemic and related events, companies and/or consumers will alter trading, manufacturing and/or buying patterns from the patterns we have observed in the global economy in the past and if so, for how long.

In fiscal 2021 we took proactive measures to position our company to defend against the potential impact of the Pandemic while ensuring that we maintained our flexibility to react quickly when a normalization of business activity returns. While we will continue to be cautious as we consider the ongoing impact of the Pandemic, in fiscal 2022 we have invested in our business by hiring additional staff and continue to engage in virtual marketing events while, at the same time, some of our restrictions on in-person marketing events and travel have started to gradually ease as the uncertainty caused by the Pandemic subsides. In fiscal 2023, we expect to continue to invest in our business through headcount growth and see a continued reduction of our restrictions on in-person marketing events and travel.

On January 1, 2021, the UK left the European Union and agreed to terms on a trade agreement that set out the tariffs and guidelines on imports and exports between the two regions. Despite the trade agreement, both parties agreed that import and export filings would now need to be made on shipments between the UK and the European Union with special trading rules for shipments to and from Northern Ireland. In addition, the UK implemented a system for electronic filings on imports and exports. As a result, we have been actively engaging with customers and service providers with solutions that assist them with these electronic filing requirements and as a result have seen a positive impact to our revenues in fiscal 2022. Should changes be made to regulations relating to the movement of goods between the UK and the European Union, or the special trading rules for shipments to and from Northern Ireland, such that the filing requirements related to imports and exports were somehow reduced, this could have an impact on the revenues we have been generating in this area of our business.

More generally, our business may be impacted from time to time by the cyclical and seasonal nature of particular modes of transportation and the freight market, as well as the cyclical and seasonal nature of the industries that such markets serve. Factors which may create cyclical fluctuations in such modes of transportation or the freight market in general include legal and regulatory requirements (for example Brexit), timing of contract renewals between our customers and their own customers, seasonal-based tariffs, vacation periods applicable to particular shipping or receiving nations, weather-related or global health events that impact shipping in particular geographies and amendments to international trade agreements. In particular, the uncertainties arising from the Pandemic and steps taken by governments, businesses, other organizations and private citizens to respond to the Pandemic could continue to adversely impact global shipment volumes in all modes of transportation in fiscal 2023. Since some of our revenues from particular products and services are tied to the volume of shipments being processed, adverse fluctuations in the volume of global shipments, or shipments in any particular mode of transportation, may adversely affect our revenues. Significant declines in shipment volumes could likely have a material adverse effect on our business.

Industry consolidation, rapid technological change, growth of ecommerce and frequent new product introductions and enhancements continue to characterize the software and services industries – particularly for logistics management technology companies. Organizations are increasingly requiring greater levels of functionality and more sophisticated product offerings from their software and services providers.

Increased importance is being placed on leveraging cloud-based technology to better manage logistics processes and to connect and collaborate with trading partners on a global basis, as well as to reuse and share supply chain data in order to accelerate time-to-value. Cloud-based technology also enables business networks to more easily unite and integrate services provided by a broad range of partners and technology alliances to extend functionality and further enhance collaboration between business communities. As a result, we believe there is a trend away from using manual and paper-based supply

chain and logistics processes towards electronic processes powered by the exchange of electronic information between logistics and supply chain participants.

Accordingly, we expect that our future success will be dependent upon our ability to enhance current products or develop and introduce new products offering enhanced performance and new functionality at competitive prices. In particular, we believe customers are looking for end-to-end solutions that combine a multi-modal, multi-process network with business document exchange and wireless mobile resource management ("MRM") applications with end-to-end global trade compliance, trade content and collaborative supply chain execution applications. These applications include freight bookings, contract and rate management, classification of goods for tariff and duty purposes, sanctioned party screening, customs filings and electronic shipment manifest processes, transportation management, routing and scheduling, purchase order to dock door processes, and inventory visibility.

We believe there is a continued acceptance of subscription pricing and SaaS business models in the markets we serve that provide lower up-front cost and easier-to-maintain alternatives than may be available through traditional perpetual license pricing models. In 2022, our services revenues comprised 89% of our total revenues, with the balance being license, professional services and other revenues. We expect that our focus in fiscal 2023 will remain on generating services revenues, primarily by promoting the use of our GLN (including customs compliance services) and the migration of customers using our legacy license-based products to our services-based architecture. We anticipate maintaining the flexibility to license our products to those customers who prefer to buy the products in that fashion and the composition of our revenues in any one quarter will be impacted by the buying preferences of our customers.

We have significant contracts with our license customers for ongoing support and maintenance, as well as significant service contracts which provide us with recurring services revenues. After their initial term, our service contracts are generally renewable at a customer's option, and there are generally no mandatory payment obligations or obligations to license additional software or subscribe for additional services. In a typical year, based on our historic experience, we anticipate that over a one-year period we may lose approximately 4% to 6% of our aggregate annualized recurring revenues from the previous year in the ordinary course, excluding consideration of new customers. Going forward, given the potential ongoing uncertain economic impact of the Pandemic on our customers' businesses, we anticipate that the amount of recurring revenues lost from the previous year could be higher than our historic experience.

We internally measure and manage our "baseline calibration", which we define as the difference between our "baseline revenues" and "baseline operating expenses". Each of these measures constitutes a "supplementary financial measure" under Canadian Securities Administrators' National Instrument 52-112 and does not have a directly comparable financial measure disclosed in our financial statements. We define our "baseline revenues" as our visible, recurring and contracted revenues. Baseline revenues are not a projection of anticipated total revenues for a period as they exclude any anticipated or expected new sales for a period beyond the date that the baseline revenues are measured. We define our "baseline operating expenses" as our total expenses less interest, investment income, taxes, depreciation and amortization, stock-based compensation (for which we include related costs and taxes), acquisition-related costs and restructuring charges. Baseline operating expenses are not a projection of anticipated total expenses for a period as they exclude any expenses associated with anticipated or expected new sales for a period beyond the date that the baseline expenses are measured. Our baseline calibration is not a projection of net income for a period or adjusted earnings before interest, taxes, depreciation and amortization for a period as it excludes anticipated or expected new sales for a period beyond the date that the baseline calibration is measured, excludes any costs of goods sold or other expenses associated with such new sales, and excludes the expenses identified as excluded in the definition of "baseline operating expenses," above. We calculate and disclose "baseline revenues," "baseline operating expenses" and "baseline calibration" because management uses these metrics in determining its planned levels of expenditures for a period and we believe this information is useful to our investors. These metrics are estimated operating metrics and not projections, nor actual financial results, and are not indicative of current or future performance. As noted above, these metrics do not have any directly comparable financial measures disclosed in our financial statements. At February 9, 2022, using foreign exchange rates of \$0.79 to CAD

\$1.00, \$1.13 to EUR 1.00 and \$1.36 to £1.00, we estimated that our baseline revenues for the first quarter of 2023 are approximately \$100.2 million and our baseline operating expenses are approximately \$62.3 million. We consider this to be our baseline calibration of approximately \$37.9 million for the first quarter of 2023, or approximately 38% of our baseline revenues as at February 9, 2022.

We estimate that aggregate amortization expense for existing intangible assets will be \$53.4 million for 2023, \$41.2 million for 2024, \$38.4 million for 2025, \$34.1 million for 2026, \$19.3 million for 2027 and \$43.2 million thereafter. Expected future amortization expense is based on the level of existing intangible assets at January 31, 2022, is subject to fluctuations in foreign exchange rates and assumes no future adjustments or impairment of existing intangible assets.

We anticipate that stock-based compensation expense for fiscal 2023 for grants outstanding as at January 31, 2022 will be approximately \$9.3 million, subject to any necessary adjustments resulting from actual stock-based compensation forfeitures and fluctuations in foreign exchange rates.

We performed our annual goodwill impairment tests in accordance with ASC Topic 350, "Intangibles – Goodwill and Other" ("ASC Topic 350") as at October 31, 2021 and determined that there was no evidence of impairment. We are currently scheduled to perform our next annual impairment test during the third quarter of fiscal 2023. We will continue to perform quarterly analyses of whether any event has occurred that would more likely than not reduce our enterprise value below our carrying amounts and, if so, we will perform a goodwill impairment test between the annual dates. The likelihood of any future impairment increases if our public market capitalization is adversely impacted by global economic, capital market or other conditions for a sustained period of time. Any future impairment adjustment will be recognized as an expense in the period that such adjustment is identified.

In fiscal 2022, capital expenditures were \$4.8 million or 1% of revenues, as we continue to invest in computer equipment and software to support our network and build out our infrastructure. We anticipate that we will incur approximately \$4.0 to \$5.0 million in capital expenditures in fiscal 2023 primarily related to investments in our network and security infrastructure.

We conduct business in a variety of foreign currencies and, as a result, our foreign operations are subject to foreign exchange fluctuations. Our businesses operate in their local currency environment and use their local currency as their functional currency. Assets and liabilities of foreign operations are translated into US dollars at the exchange rate in effect at the balance sheet date. Revenues and expenses of foreign operations are translated using daily exchange rates. Translation adjustments resulting from this process are accumulated in other comprehensive income (loss) as a separate component of shareholders' equity. Transactions incurred in currencies other than the functional currency are converted to the functional currency at the transaction date. All foreign currency transaction gains and losses are included in net income. Some of our cash is held in foreign currencies. We currently have no specific hedging program in place to address fluctuations in international currency exchange rates. We can make no accurate prediction of what will happen with international currency exchange rates going forward. However, if the US dollar was to weaken in comparison to foreign currencies, then we anticipate this will increase the expenses of our business and have a negative impact on our results of operations. By way of illustration, 64% of our revenues in the fourth quarter of fiscal 2022 were in US dollars, 12% in euro, 9% in British pound sterling, 9% in Canadian dollars, and the balance in mixed currencies, while 46% of our operating expenses were in US dollars, 15% in euro, 4% in British pound sterling, 24% in Canadian dollars, and the balance in mixed currencies.

Our tax expense for a period is difficult to predict as it depends on many factors, including the actual jurisdictions in which income is earned, the tax rates in those jurisdictions, the amount of deferred tax assets relating to the jurisdictions and the valuation allowances relating to those tax assets. We can provide no assurance as to the timing or amounts of any income tax expense or recovery, nor can we provide any assurance that our current valuation allowance for deferred tax assets will not need to be adjusted further.

We experienced an effective tax rate of approximately 16% in fiscal 2022, primarily as a result of a release in valuation allowances related to tax losses carried forward that were previously unrecognized. There continues to be a number of uncertainties that could impact our tax rate in fiscal 2023, such as tax reform in the US, as well as other potential tax rate changes in foreign jurisdictions. However, at this time we anticipate that our effective tax rate on an annualized basis would return to our typical range of 25% to 30% of pre-tax income in 2023 and in subsequent years.

We intend to continue to actively explore business combinations to add complementary services, products and customers to our existing businesses. We also intend to continue to focus our acquisition activities on companies that are targeting the same customers as us and processing similar data and, to that end, we listen to our customers' suggestions as they relate to acquisition opportunities. Depending on the size and scope of any business combination, or series of business combinations, we may choose or need to use our existing credit facility or need to raise additional debt or equity capital. However, there can be no assurance that we will be able to undertake such a financing transaction. If we use debt in connection with acquisition activity, we will incur additional interest expense from the date of the draw under such facility. Considering the balance of the credit facility as at January 31, 2022, and subject to any further draws or repayments on the credit facility, we anticipate that interest expense will be approximately \$1.1 million in fiscal 2023, which includes debt standby charges as well as the amortization of deferred financing charges.

Certain future commitments are set out above in the section of this MD&A called "Commitments, Contingencies and Guarantees". We believe that we have sufficient liquidity to fund our current operating and working capital requirements, including the payment of these commitments.

CERTAIN FACTORS THAT MAY AFFECT FUTURE RESULTS

Any investment in us will be subject to risks inherent to our business. Before making an investment decision, you should carefully consider the risks described below together with all other information included in this report. The risks and uncertainties described below are not the only ones facing us. Additional risks and uncertainties that we are not aware of or have not focused on, or that we currently deem immaterial, may also impair our business operations. This report is qualified in its entirety by these risk factors.

If any of the risks actually occur, they could materially adversely affect our business, financial condition, liquidity or results of operations. In that case, the trading price of our securities could decline and you may lose all or part of your investment.

System or network failures, information security breaches or other cyber-security threats in connection with our services and products could reduce our sales, impair our reputation, increase costs or result in liability claims, and seriously harm our business.

We rely on information technology networks and systems to process, transmit and store electronic information. Any disruption to our services and products, our own information systems or communications networks or those of third-party providers on which we rely as part of our own product offerings could result in the inability of our customers to receive our products for an indeterminate period of time. Our ability to deliver our products and services depends on the development and maintenance of internet infrastructure by third parties. This includes maintenance of reliable networks with the necessary security, speed, data capacity and bandwidth. While our services are designed to operate without interruption, we have experienced, and may in the future experience, interruptions and delays in services and availability from time to time. In the event of a catastrophic event with respect to one or more of our systems, we may experience an extended period of system unavailability, which could negatively impact our relationship with customers. Our services and products may not function properly for reasons which may include, but are not limited to, the following:

- System or network failure;
- Software errors, failures and crashes;

- Interruption in the supply of power;
- Virus proliferation or malware;
- Communications failures;
- Information or infrastructure security breaches;
- Insufficient investment in infrastructure;
- Earthquakes, fires, floods, natural disasters, or other force majeure events outside our control; and
- Acts of war, sabotage, cyber-attacks, denial-of-service attacks and/or terrorism.

In addition, any disruption to the availability of customer information, or any compromise to the integrity or confidentiality of customer information in our systems or networks, or the systems or networks of third parties on which we rely, could result in our customers being unable to effectively use our products or services or being forced to take mitigating actions to protect their information. Back-up and redundant systems may be insufficient or may fail and result in a disruption of availability of our products or services to our customers or the integrity or availability of our customers' information.

Some jurisdictions have enacted laws requiring companies to notify individuals of data security breaches involving certain types of personal data and in some cases our agreements with certain customers require us to notify them in the event of a security incident. Such mandatory disclosures could lead to negative publicity and may cause our current and prospective customers to lose confidence in the effectiveness of our data security measures. Moreover, if a high-profile security breach occurs with respect to another SaaS provider, customers may lose trust in the security of the SaaS business model generally, which could adversely impact our ability to retain existing customers or attract new ones.

Any actual or perceived threat of disruption to our services or any compromise of customer information could impair our reputation and cause us to lose customers or revenue, or face litigation, necessitate customer service or repair work that would involve substantial costs and distract management from operating our business. Despite the implementation of advanced threat protection, information and network security measures and disaster recovery plans, our systems and those of third parties on which we rely may be vulnerable. If we are unable (or are perceived as being unable) to prevent, or promptly identify and remedy, such outages and breaches, our operations may be disrupted, our business reputation could be adversely affected, and there could be a negative impact on our financial condition and results of operations.

The Pandemic has had a significant impact on the global economy and could adversely affect our business, results of operations and financial condition.

The Pandemic and the efforts to respond to it have negatively impacted the global economy, has, at times, disrupted some manufacturing operations and global supply chains and has at times, created significant volatility and disruption of financial markets. These disruptions may continue in the future resulting in reduced commercial and consumer confidence and spending, increased unemployment, closure or restricted operating conditions for businesses, volatility in the global economy, instability in the credit and financial markets, labor shortages, and disruption in supply chains. In addition, potential price inflation caused by an excess of liquidity in countries where we conduct business may increase the costs we incur to provide our solutions and may reduce profit margins.

We expect the significance of the Pandemic, including the extent of its effect on our financial condition and results of operations, to depend on, among other things, its duration, the success of efforts to contain it, its impact on the global economy and on our customers, and the impact of ongoing actions and future actions taken by government authorities and by us in response. While we are not able at this time to estimate the impact of the Pandemic, an extended period of global supply chain and economic disruption could materially and adversely affect our business, results of operations, access to sources of liquidity and financial condition. In addition, an extended global recession caused by the Pandemic could have a further adverse impact on our financial condition and operations.

Catastrophic events, armed conflict, wars, natural disasters, severe weather and disease and similar events could disrupt the demand of our customers for our products and services and our ability to operate our business.

Our business may be negatively impacted to varying degrees by a number of events which are beyond our control, including acts of war, armed conflicts, energy blackouts, pandemics (or other public health crises), terrorist attacks, earthquakes, hurricanes, tornados, fires, floods, ice storms or other natural or manmade catastrophes. We cannot be sure that our emergency preparedness or the preparedness of our customers, including business continuity planning, to mitigate risks will be effective since such events can evolve very rapidly, and their impacts can be difficult to predict. As such, there can be no assurance that in the event of such a catastrophe that the operations and ability to carry on business of us or our customers will not be disrupted. The occurrence of such events may not release us from performing our obligations to third parties. A catastrophic event, including an outbreak of infectious disease, a pandemic or a similar health threat, such as the current Pandemic, or fear of any of the foregoing, could adversely impact us, our customers and our investments. In addition, liquidity and volatility, credit availability and market and financial conditions, all of which have been negatively impacted by the Pandemic, generally could change at any time as a result of any of these events. Any of these events in isolation or in combination, could have a material negative impact on our performance, financial condition, results of operations and cash flows.

We may have difficulties identifying, successfully integrating or maintaining or growing our acquired businesses.

Businesses that we acquire may sell products or services that we have limited experience operating or managing. We may experience unanticipated challenges or difficulties identifying suitable acquisition candidates, integrating their businesses into our company, maintaining these businesses at their current levels or growing these businesses. Factors that may impair our ability to identify, successfully integrate, maintain or grow acquired businesses may include, but are not limited to:

- Challenges identifying suitable businesses to buy and negotiating the acquisition of those businesses on acceptable terms;
- Challenges completing the acquisitions within our expected time frames and budgets;
- Challenges in integrating acquired businesses with our business;
- Loss of customers of the acquired business;
- Loss of key personnel from the acquired business, such as former executive officers or key technical personnel;
- Non-compatible business cultures;
- For regulatory compliance businesses, changes in government regulations impacting electronic regulatory filings or import/export compliance, including changes in which government agencies are responsible for gathering import and export information;
- Difficulties in gaining necessary approvals in international markets to expand acquired businesses as contemplated;
- Our inability to obtain or maintain necessary security clearances to provide international shipment management services;
- Our failure to make appropriate capital investments in infrastructure to facilitate growth; and
- Other risk factors identified in this report.

We may fail to properly respond to any of these risks, which may have a material adverse effect on our business results.

Investments in acquisitions and other business initiatives involve a number of risks that could harm our business.

We have in the past acquired, and in the future, expect to seek to acquire, additional products, services, customers, technologies and businesses that we believe are complementary to ours. We are unable to predict whether or when we will be able to identify any appropriate products, technologies or businesses for acquisition, or the likelihood that any potential acquisition will be available on terms acceptable to us or will be completed. We also, from time to time, take on investments in other business initiatives, such as the implementation of new systems.

Acquisitions and other business initiatives involve a number of risks, including: substantial investment of funds, diversion of management's attention from current operations; additional demands on resources, systems, procedures and controls; and disruption of our ongoing business. Acquisitions specifically involve risks, including: difficulties in integrating and retaining all or part of the acquired business, its customers and its personnel; assumption of disclosed and undisclosed liabilities; dealing with unfamiliar laws, customs and practices in foreign jurisdictions; and the effectiveness of the acquired company's internal controls and procedures. In addition, we may not identify all risks or fully assess risks identified in connection with an investment. As well, by investing in such initiatives, we may deplete our cash resources or dilute our shareholder base by issuing additional shares. Furthermore, for acquisitions, there is a risk that our valuation assumptions, customer retention expectations and our models for an acquired product or business may be erroneous or inappropriate due to foreseen or unforeseen circumstances and thereby cause us to overvalue an acquisition target. There is also a risk that the contemplated benefits of an acquisition or other investment may not materialize as planned or may not materialize within the time period or to the extent anticipated. The individual or combined effect of these risks could have a material adverse effect on our business.

If we fail to attract and retain key personnel, it would adversely affect our ability to develop and effectively manage our business and inflationary pressures in compensation could impact the cost structure of our business.

Our performance is substantially dependent on the performance of our highly qualified management, technical expertise, and sales and marketing personnel, which we regard as key individuals to our business. Significant competition exists for management and skilled personnel and as a result of that competition we are seeing wage and labor cost escalation in various areas and levels within our workforce. Our success is highly dependent on our ability to identify, hire, train, motivate, promote, and retain key individuals. In responding to inflationary wage pressure to retain or attract key individuals, we could see increases in our operating costs that outpace our ability to grow revenues. If we fail to cross train key employees, particularly those with specialized knowledge it could impair our ability to provide consistent and uninterrupted service to our customers. If we are not able to attract, retain or establish an effective succession planning program for key individuals it could have a material adverse effect on our business, results of operations, financial condition and the price of our common shares.

We have in the past, and may in the future, make changes to our executive management team or board of directors. There can be no assurance that any such changes and the resulting transition will not have a material adverse effect on our business, results of operations, financial condition and the price of our common shares.

Changes in government filing or screening requirements for global trade may adversely impact our business.

Our regulatory compliance services help our customers comply with government filing and screening requirements relating to global trade. The services that we offer may be impacted, from time to time, by changes in these requirements, including potential future changes as a consequence of Brexit, the United States-Mexico-Canada Agreement or similar cross-border trade agreements. Beginning in our fiscal 2021 year, we saw increased customs filing transactions and resulting revenues from our customs filing solutions in the UK as a result of Brexit and the changes in way goods moved between the EU and the UK (including goods moving to and from Northern Ireland) following Brexit. If the regulations relating to these requirements were to change, it could adversely impact that area of our business. In addition, and more generally, changes in requirements that impact electronic regulatory filings or import/export compliance, including changes adding or reducing filing requirements, changes in enforcement practices or changes in the government agency responsible for such requirements could adversely impact our business, results of operations and financial condition.

Disruptions in the movement of freight could negatively affect our revenues.

Our business is highly dependent on the movement of freight from one point to another since we generate transaction revenues as freight is moved by, to or from our customers. If there are disruptions in the movement of freight, proper reporting or the overall volume of international shipments, whether as a result of labor disputes, weather or natural disaster, terrorist events, political instability, changes in cross

border trade agreements, contagious illness outbreaks (such as the Pandemic), or otherwise, then the traffic volume on our Global Logistics Network will be impacted and our revenues will be adversely affected. As these types of freight disruptions are generally unpredictable, there can be no assurance that our business, results of operations and financial condition will not be adversely affected by such events.

General economic conditions may affect our results of operations and financial condition.

Demand for our products depends in large part upon the level of capital and operating expenditures by many of our customers. Decreased capital and operational spending could have a material adverse effect on the demand for our products and our business, results of operations, cash flow and overall financial condition. Disruptions in the financial markets may adversely impact the availability of credit already arranged and the availability and cost of credit in the future, which could result in the delay or cancellation of projects or capital programs on which our business depends. In addition, disruptions in the financial markets may also have an adverse impact on regional economies or the world economy, which could negatively impact the capital and operating expenditures of our customers. Decreased capital and operational spending or disruptions in the financial markets could be caused by the outbreak of a contagious illness, such as the Pandemic (and any intensification thereof). Any of these conditions may reduce the willingness or ability of our customers and prospective customers to commit funds to purchase our products and services, or their ability to pay for our products and services after purchase.

Our existing customers might cancel contracts with us, fail to renew contracts on their renewal dates, and/or fail to purchase additional services and products, and we may be unable to attract new customers.

We depend on our installed customer base for a significant portion of our revenues. We have significant contracts with our license customers for ongoing support and maintenance, as well as significant service contracts that provide recurring services revenues to us. In addition, our installed customer base has historically generated additional new license and services revenues for us. Service contracts are generally renewable at a customer's option and/or subject to cancellation rights, and there are generally no mandatory payment obligations or obligations to license additional software or subscribe for additional services.

If our customers fail to renew their service contracts, fail to purchase additional services or products, or we are unable to attract new customers, then our revenues could decrease and our operating results could be adversely affected. Factors influencing such contract terminations could include changes in the financial circumstances of our customers, dissatisfaction with our products or services, our retirement or lack of support for our legacy products and services, our customers selecting or building alternate technologies to replace us, the cost of our products and services as compared to the cost of products and services offered by our competitors, acceptance of future price increases, our ability to attract, hire and maintain qualified personnel to meet customer needs, consolidating activities in the market, and changes in our customers' business or in regulation impacting our customers' business that may no longer necessitate the use of our products or services, general economic or market conditions, or other reasons. Further, our customers could delay or terminate implementations or use of our services and products or be reluctant to migrate to new products. Such customers will not generate the revenues we may have anticipated within the timelines anticipated, if at all, and may be less likely to invest in additional services or products from us in the future. We may not be able to adjust our expense levels quickly enough to account for any such revenue losses. In addition, loss of one or more of our key customers could adversely impact our competitive position in the marketplace and hurt our credibility and ability to attract new customers.

Our success depends on our ability to continue to innovate and to create new solutions and enhancements to our existing products

We may not be able to develop and introduce new solutions and enhancements to our existing products that respond to new technologies or shipment regulations on a timely basis. If we are unable to develop and sell new products and new features for our existing products that keep pace with rapid technological and regulatory change as well as developments in the transportation logistics industry, our business, results of operations and financial condition could be adversely affected. We intend to continue to invest significant resources in research and development to enhance our existing products and services and introduce new high-quality products that customers will want. If we are unable to predict or quickly react

to user preferences or changes in the transportation logistics industry, or its regulatory requirements, or if we are unable to modify our products and services on a timely basis or to effectively bring new products to market, our sales may suffer.

In addition, we may experience difficulties with software or hardware development, design, integration with third-party software or hardware, or marketing that could delay or prevent our introduction, deployment or implementation of new solutions and enhancements. The introduction of new solutions by competitors, the emergence of new industry standards or the development of entirely new technologies to replace existing offerings could render our existing or future solutions obsolete.

We may not have sufficient resources to make the necessary investments in software development and our technical infrastructure, and we may experience difficulties that could delay or prevent the successful development, introduction or marketing of new products or enhancements. In addition, our products or enhancements may not meet increasingly complex customer requirements or achieve market acceptance at the rate we expect, or at all. Any failure by us to anticipate or respond adequately to technological advancements, customer requirements and changing industry standards, or any significant delays in the development, introduction or availability of new products or enhancements, could undermine our current market position and negatively impact our business, results of operations or financial condition.

We may not remain competitive. Increased competition could seriously harm our business.

The market for supply chain technology is highly competitive and subject to rapid technological change. We expect that competition will increase in the future. To maintain and improve our competitive position, we must continue to develop and introduce in a timely and cost-effective manner new products, product features and services to keep pace with our competitors. We currently face competition from a large number of specific market entrants, some of which are focused on specific industries, geographic regions or other components of markets we operate in.

Current and potential competitors include supply chain application software vendors, customers that undertake internal software development efforts, value-added networks and business document exchanges, enterprise resource planning software vendors, regulatory filing companies, trade data vendors and general business application software vendors. Many of our current and potential competitors may have one or more of the following relative advantages:

- Established relationships with existing customers or prospects that we are targeting;
- Superior product functionality and industry-specific expertise;
- Broader range of products to offer and better product life cycle management;
- Larger installed base of customers;
- Greater financial, technical, marketing, sales, distribution and other resources;
- Better performance;
- Lower cost structure and more profitable operations;
- Greater investment in infrastructure;
- Greater worldwide presence;
- Early adoption of, or adaptation to changes in, technology; or
- Longer operating history; and/or greater name recognition.

Further, current and potential competitors have established, or may establish, cooperative relationships and business combinations among themselves or with third parties to enhance their products, which may result in increased competition. In addition, we expect to experience increasing price competition and competition surrounding other commercial terms as we compete for market share. In particular, larger competitors or competitors with a broader range of services and products may bundle their products, rendering our products more expensive and/or less functional. As a result of these and other factors, we may be unable to compete successfully with our existing or new competitors.

Emergence or increased adoption of alternative sources for trade data may adversely impact our business.

With recent acquisitions in the area of supplying trade data and content, an increasing portion of our business relates to the supply of trade data and content that is often used by our customers in other

systems, such as enterprise resource planning systems. Emergence or increased adoption of alternative sources of this data and content could have an adverse impact on our customers' needs to obtain this data and content from us and/or the need for certain of the third-party system vendors in this field to refer customers to us for this data and content, each of which could adversely impact upon the revenues and income we generate from these areas of our business.

If we need additional capital in the future and are unable to obtain it or can only obtain it on unfavorable terms, our operations may be adversely affected, and the market price for our securities could decline.

Historically, we have financed our operations primarily through cash flows from our operations, the sale of our equity securities and borrowing under our credit facility. In addition to our current cash and available debt facilities, we may need to raise additional debt or equity capital to repay existing debt, fund expansion of our operations, to enhance our services and products, or to acquire or invest in complementary products, services, businesses or technologies. However, there can be no assurance that we will be able to undertake incremental financing transactions. If we raise additional funds through further issuances of convertible debt or equity securities, our existing shareholders could suffer significant dilution and any new equity securities we issue could have rights, preferences and privileges superior to those attaching to our common shares. Our current credit facility contains, and any debt financing secured by us in the future could contain restrictive covenants relating to our capital-raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and to pursue business opportunities, including potential acquisitions. In addition, we may not be able to obtain additional financing on terms favorable to us, if at all. If adequate funds are not available on terms favorable or at all, our operations and growth strategy may be adversely affected and the market price for our common shares could decline.

Changes in the value of the U.S. dollar, as compared to the currencies of other countries where we transact business, could harm our operating results and financial condition.

Historically, the largest percentage of our revenues has been denominated in U.S. dollars. However, the majority of our international expenses, including the wages of our non-U.S. employees and certain key supply agreements, have been denominated in Canadian dollars, euros and other foreign currencies. Therefore, changes in the value of the U.S. dollar as compared to the Canadian dollar, the euro and other foreign currencies may materially affect our operating results. We generally have not implemented hedging programs to mitigate our exposure to currency fluctuations affecting international accounts receivable, cash balances and inter-company accounts. We also have not hedged our exposure to currency fluctuations affecting future international revenues and expenses and other commitments. Accordingly, currency exchange rate fluctuations have caused, and may continue to cause, variability in our foreign currency denominated revenue streams, expenses, and our cost to settle foreign currency denominated liabilities.

We may have exposure to greater than anticipated tax liabilities or expenses.

We are subject to income and non-income taxes in various jurisdictions, our tax structure is subject to review by both domestic and foreign taxation authorities and we currently have tax audits open in a number of jurisdictions in which we operate. On a quarterly basis, we assess the status of these audits and the potential for adverse outcomes to determine whether a provision for income and other taxes is appropriate. The timing of the resolution of income tax audits is highly uncertain, and the amounts ultimately paid, if any, upon resolution of the issues raised by the taxing authorities may differ from any amounts that we accrue from time to time. The actual amount of any change could vary significantly depending on the ultimate timing and nature of any settlements. We cannot currently provide an estimate of the range of possible outcomes.

The determination of our worldwide provision for income taxes and other tax liabilities requires judgment. In the ordinary course of a global business, there are many transactions and calculations where the ultimate tax outcome is uncertain. Any audit of our tax filings could materially change the amount of current and deferred income tax assets and liabilities. We have recorded a valuation allowance against a portion of our net deferred tax assets. If we achieve a consistent level of profitability, the likelihood of further reducing our deferred tax valuation allowance for some portion of the losses incurred in prior

periods in one of our jurisdictions will increase. We calculate our current and deferred tax provision based on estimates and assumptions that could differ from the actual results reflected in income tax returns filed during subsequent years. Adjustments based on filed returns are generally recorded in the period when the tax returns are filed and the global tax implications are known. Our estimate of the potential outcome for any uncertain tax issue is based on a number of assumptions. Any further changes to the valuation allowance for our deferred tax assets would also result in an income tax recovery or income tax expense, as applicable, on the consolidated statements of operations in the period in which the valuation allowance is changed.

Changes to earnings resulting from past acquisitions may adversely affect our operating results.

Under ASC Topic 805, "Business Combinations", we allocate the total purchase price to an acquired company's net tangible assets, intangible assets and in-process research and development based on their values as of the date of the acquisition (including certain assets and liabilities that are recorded at fair value) and record the excess of the purchase price over those values as goodwill. Management's estimates of fair value are based upon assumptions believed to be reasonable but which are inherently uncertain. After we complete an acquisition, the following factors, among others, could result in material charges that would adversely affect our operating results and may adversely affect our cash flows:

- Impairment of goodwill or intangible assets;
- A reduction in the useful lives of intangible assets acquired;
- Identification of assumed contingent liabilities after we finalize the purchase price allocation period;
- Charges to our operating results to eliminate certain pre-merger activities that duplicate those of the acquired company or to reduce our cost structure; and
- Charges to our operating results resulting from revised estimates to restructure an acquired company's operations after we finalize the purchase price allocation period.

Routine charges to our operating results associated with acquisitions include amortization of intangible assets, acquisition-related costs and restructuring charges. Acquisition-related costs primarily include retention bonuses, advisory services, brokerage services and administrative costs with respect to completed and prospective acquisitions.

We expect to continue to incur additional costs associated with combining the operations of our acquired companies, which may be substantial. Additional costs may include costs of employee redeployment, relocation and retention, including salary increases or bonuses, accelerated stock-based compensation expenses and severance payments, reorganization or closure of facilities, taxes, and termination of contracts that provide redundant or conflicting services. These costs would be accounted for as expenses and would decrease our net income and earnings per share for the periods in which those adjustments are made.

As we continue to increase our international operations we increase our exposure to international business risks that could cause our operating results to suffer.

While our headquarters are in Canada, we currently have direct operations in the U.S., EMEA, Asia Pacific and South American regions. We anticipate that these international operations will continue to require significant management attention and financial resources to localize our services and products for delivery in these markets, to develop compliance expertise relating to international regulatory agencies, and to develop direct and indirect sales and support channels in those markets. We face a number of risks associated with conducting our business internationally that could negatively impact our operating results. These risks include, but are not limited to:

- The risk of continued or increased limitations of travel advisories or travel restrictions related to the outbreak of contagious illnesses, such as the Pandemic that is currently impacting global travel, could impact our ability to operate in certain markets and/or manage our operations in those markets;
- Longer collection time from foreign clients, particularly in the EMEA region and the Asia Pacific region;
- Difficulty in repatriating cash from certain foreign jurisdictions;

- Language barriers, conflicting international business practices, and other difficulties related to the management and administration of a global business;
- Increased management, travel, infrastructure and legal compliance costs associated with having international operations;
- Difficulties and costs of staffing and managing geographically disparate direct and indirect operations;
- Volatility or fluctuations in foreign currency and tariff rates;
- Multiple, and possibly overlapping, tax structures;
- Complying with complicated and widely differing global laws and regulations in areas such as employment, tax, privacy and data protection;
- Trade restrictions;
- Enhanced security procedures and requirements relating to certain jurisdictions;
- The need to consider characteristics unique to technology systems used internationally;
- Economic or political instability in some markets; and
- Other risk factors set out herein.

We may not be able to compensate for downward pricing pressure on certain products and services by increased volumes of transactions or increased prices elsewhere in our business, ultimately resulting in lower revenues.

Some of our products and services are sold to industries where there is downward pricing pressure on the particular product or service due to competition, general industry conditions or other causes. If we cannot offset any such downward pricing pressure, then the particular customer may generate less revenue for our business or we may have less aggregate revenue. This could have an adverse impact on our operating results.

From time to time, we may be subject to litigation or dispute resolution that could result in significant costs to us and damage to our reputation.

From time to time, we may be subject to litigation or dispute resolution relating to any number or type of claims, including claims for damages related to undetected errors or malfunctions of our services and products or their deployment, claims related to previously-completed acquisition transactions or claims relating to applicable securities laws. Litigation may seriously harm our business because of the costs of defending the lawsuit, diversion of employees' time and attention and potential damage to our reputation.

Further, our services and products are complex and often implemented by our customers to interact with third-party technology or networks. Claims may be made against us for damages properly attributable to those third-party technologies or networks, regardless of our lack of responsibility for any failure resulting in a loss, even if our services and products perform in accordance with their functional specifications. We may also have disputes with key suppliers for damages incurred which, depending on resolution of the disputes, could impact the ongoing quality, price or availability of the services or products we procure from the supplier. Limitation of liability provisions in certain third-party contracts may not be enforceable under the laws of some jurisdictions. As a result, we could be required to pay substantial amounts of damages in settlement or upon the determination of any of these types of claims and incur damage to our reputation and products. The likelihood of such claims and the amount of damages we may be required to pay may increase as our customers increasingly use our services and products for critical business functions, or rely on our services and products as the systems of record to store data for use by other customer applications. Our insurance may not cover potential claims or may not be adequate to cover all costs incurred in defense of potential claims or to indemnify us for all liability that may be imposed. A claim brought against us that is uninsured or underinsured could result in unanticipated costs, thereby harming our operating results and leading analysts or potential investors to lower their expectations of our performance, which could reduce the trading price of our common shares.

Increases in fuel prices and other transportation costs may have an adverse effect on the businesses of our customers resulting in them spending less money with us.

Our customers are all involved, directly or indirectly, in the delivery of goods from one point to another, particularly transportation providers and freight forwarders. As the costs of these deliveries become more expensive, whether as a result of increases in fuel costs or otherwise, our customers may have fewer

funds available to spend on our products and services. There can be no assurance that these companies will be able to allocate sufficient funds to use our products and services. In addition, rising fuel costs may cause global or geographic-specific reductions in the number of shipments being made, thereby impacting the number of transactions being processed by our Global Logistics Network and our corresponding network revenues.

Our success and ability to compete depend upon our ability to secure and protect patents, trademarks and other proprietary rights.

We consider certain aspects of our internal operations, products, services and related documentation to be proprietary, and we primarily rely on a combination of patent, copyright, trademark and trade secret laws and other measures to protect our proprietary rights. Patent applications or issued patents, as well as trademark, copyright, and trade secret rights may not provide adequate protection or competitive advantage and may require significant resources to obtain and defend. We will also not be able to protect our intellectual property if we are unable to enforce our rights or if we do not detect unauthorized use of our intellectual property. Despite our precautions, it may be possible for unauthorized third parties to copy our products and use information that we regard as proprietary to create products and services that compete with ours. We also rely on contractual restrictions in our agreements with customers, employees, outsourced developers and others to protect our intellectual property rights. There can be no assurance that these agreements will not be breached, that we will have adequate remedies for any breach, or that our patents, copyrights, trademarks or trade secrets will not otherwise become known. Through an escrow arrangement, we have granted some of our customers a contingent future right to use our source code for software products solely for their internal maintenance services. If our source code is accessed through an escrow, the likelihood of misappropriation or other misuse of our intellectual property may increase.

Moreover, the laws of some countries do not protect proprietary intellectual property rights as effectively as do the laws of the U.S. and Canada. Protecting and defending our intellectual property rights could be costly regardless of venue. In order to protect our intellectual property rights, we may be required to spend significant resources to monitor and protect these rights. The Company is currently involved in, and expects to remain involved in, certain litigation to protect its intellectual property from infringement by third parties. In addition, further litigation may be necessary in the future to enforce our 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. Litigation brought to protect and enforce our intellectual property rights could be costly, time consuming and distracting to management and could result in the impairment or loss of portions of our intellectual property. Furthermore, our efforts to enforce our intellectual property rights may be met with defenses, counterclaims and countersuits attacking the validity and enforceability of our intellectual property rights and/or exposing us to claims for damages in any related counterclaims or countersuits. Our inability to protect our proprietary technology against unauthorized copying or use, as well as any costly litigation or diversion of our management's attention and resources, could delay further sales or the implementation of our solutions, impair the functionality of our solutions, delay introductions of new solutions, result in our substituting inferior or more costly technologies into our solutions, or injure our reputation.

We are dependent on certain key vendors for the availability of hardware devices, which could impede our development and expansion.

We currently have relationships with a small number of hardware device vendors over which we have no operational or financial control and no influence in how these vendors conduct their businesses. Suppliers of hardware devices could among other things, extend delivery times, raise prices and limit supply due to their own shortages and business requirements. Interruption in the supply of equipment from these vendors could delay our ability to maintain, grow and expand our telematics solutions business and those areas of our business that interact with telematics units. If our relationships with any of these unit vendors were to terminate, there is no guarantee that our remaining unit vendors would be able to handle the increased equipment supply required to maintain and grow our expansive networks at our desired rates. There is also no guarantee that business relationships with other key unit vendors could be entered into on terms desirable or favorable to us, if at all. Fewer key vendors might mean that existing or potential customers are unable to meaningfully communicate using our Global Logistics Network, which may cause

existing and potential customers to move to competitors' products. Such equipment supply issues could adversely affect our business, results of operations and financial condition.

Concerns about the environmental impacts of greenhouse gas emissions and global climate change may result in environmental taxes, charges, regulatory schemes, assessments or penalties, which could restrict or negatively impact our operations or reduce our profitability.

The impacts of human activity on global climate change have attracted considerable public and scientific attention, as well as the attention of the U.S. and other governments. Efforts are being made to reduce greenhouse gas emissions and energy consumption, including those from automobiles and other modes of transportation. The added cost of any environmental regulation, taxes, charges, assessments or penalties levied or imposed on our customers in light of these efforts could result in additional costs for our customers, which could lead them to reduce use of our services. There are also a number of legislative and environmental regulatory initiatives internationally that could restrict or negatively impact our operations or increase our costs. Additionally, environmental regulation, taxes, charges, assessments or penalties could be levied or imposed directly on us. Any enactment of laws or passage of regulations regarding greenhouse gas emissions by Canada, the U.S., or any other jurisdiction we conduct our business in, could adversely affect our operations and financial results.

The general cyclical and seasonal nature of the freight market may have a material adverse effect on our business, results of operations and financial condition.

Our business may be impacted from time to time by the general cyclical and seasonal nature of particular modes of transportation and the freight market in general, as well as the cyclical and seasonal nature of the industries that such markets serve. Factors which may create cyclical fluctuations in such modes of transportation or the freight market in general include legal and regulatory requirements, timing of contract renewals between our customers and their own customers, seasonal-based tariffs, vacation periods applicable to particular shipping or receiving nations, weather-related events that impact shipping in particular geographies and amendments to international trade agreements. Since some of our revenues from particular products and services are tied to the volume of shipments being processed, adverse fluctuations in the volume of global shipments or shipments in any particular mode of transportation may adversely affect our revenues. Declines in shipment volumes would likely have a material adverse effect on our business.

If we are unable to generate broad market acceptance of our services, products and pricing, serious harm could result to our business.

We currently derive substantially all of our revenues from our federated network and global logistics technology solutions and expect to do so in the future. Broad market acceptance of these types of services and products, and their related pricing, is therefore critical to our future success. The demand for, and market acceptance of, our services and products is subject to a high level of uncertainty. Some of our services and products are often considered complex and may involve a new approach to the conduct of business by our customers. The market for our services and products may weaken, competitors may develop superior services and products that perform logistics services on a global scale or within a particular geographic region, or we may fail to develop or maintain acceptable services and products to address new market conditions, governmental regulations or technological changes. Any one of these events could have a material adverse effect on our business, results of operations and financial condition.

Claims that we infringe third-party proprietary rights could trigger indemnification obligations and result in significant expenses or restrictions on our ability to provide our products or services.

Competitors and other third parties have claimed, and in the future, may claim, that our current or future services or products infringe their proprietary rights or assert other claims against us. Many of our competitors have obtained patents covering products and services generally related to our products and services, and they may assert these patents against us. Such claims, whether with or without merit, could be time consuming and expensive to litigate or settle and could divert management attention from focusing on our core business.

As a result of such a dispute, we may have to pay damages, incur substantial legal fees, suspend the sale or deployment of our services and products, develop costly non-infringing technology, if possible, or enter into license agreements, which may not be available on terms acceptable to us, if at all. Any of these results would increase our expenses and could decrease the functionality of our services and products, which would make our services and products less attractive to our current and/or potential customers. We have agreed in some of our agreements, and may agree in the future, to indemnify other parties for any expenses or liabilities resulting from claimed infringements of the proprietary rights of third parties. If we are required to make payments pursuant to these indemnification agreements, such payments could have a material adverse effect on our business, results of operations and financial condition.

Our results of operations may vary significantly from quarter to quarter and therefore may be difficult to predict or may fail to meet investment community expectations.

Our results of operations may vary from quarter to quarter in the future due to a variety of factors, many of which are outside of our control. Such factors include, but are not limited to:

- Volatility or fluctuations in foreign currency exchange rates;
- Volatility or fluctuations in interest rates;
- Timing of acquisitions and related costs;
- Timing of restructuring activities;
- The introduction of enhanced products and services from competitors;
- Our ability to introduce new products and updates to our existing products on a timely basis;
- The termination of any key customer contracts, whether by the customer or by us;
- Recognition and expensing of deferred tax assets;
- Legal costs incurred in bringing or defending any litigation with customers or third-party providers, and any corresponding judgments or awards;
- Legal and compliance costs incurred to comply with regulatory requirements;
- Fluctuations in the demand for our services and products;
- The impact of stock-based compensation expense;
- Price and functionality competition in our industry;
- Changes in legislation and accounting standards;
- Our ability to satisfy contractual obligations in customer contracts and deliver services and products to the satisfaction of our customers; and
- Other risk factors discussed in this report.

Although our revenues may fluctuate from quarter to quarter, significant portions of our expenses are not variable in the short term, and we may not be able to reduce them quickly to respond to decreases in revenues. If revenues are below expectations, this shortfall is likely to adversely and/or disproportionately affect our operating results. If this occurs, the trading price of our common shares may fall substantially.

We may not be able to prevent or detect all errors or fraud.

Due to the inherent limitations of internal control systems, misstatements due to error or fraud may occur and may not be detected in a timely manner or at all. Accordingly, we cannot provide absolute assurance that all control issues, errors or instances of fraud, if any, impacting us have been or will be prevented or detected. In addition, over time, certain aspects of a control system may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate, which we may not be able to address quickly enough to prevent all instances of error or fraud. In connection with our on-going assessment of the effectiveness of our internal control over financial reporting, we may discover “material weaknesses” in our internal controls. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company’s annual or interim financial statements will not be prevented or detected on a timely basis. The existence of any material weakness may require management to devote significant time and incur significant expense to remediate any such material weaknesses. The existence of any material weakness in our internal control over financial reporting may result in errors in our financial statements that could require us to make corrective adjustments, restate our financial statements, cause us to fail to meet our reporting obligations, and cause shareholders to lose confidence in our reported financial information, all of which could materially and adversely affect the market price of our securities. If we are unable to successfully identify and remediate any material

weaknesses that may arise in a timely manner, the accuracy and timing of our financial reporting may be adversely affected, and we may be unable to maintain compliance with securities law requirements regarding timely filing of periodic reports and applicable stock exchange listing requirements.

Privacy laws and regulations are extensive, open to various interpretations, complex to implement and may reduce demand for our products, and failure to comply may impose significant liabilities.

Our customers can use our products to collect, use, process and store information regarding their transactions with their customers. Federal, state and foreign government bodies and agencies have been increasingly adopting new laws and regulations regarding the collection, use, processing, storage and disclosure of such information obtained from consumers and individuals. In addition to government regulatory activity, privacy advocacy groups and the technology industry and other industries may consider various new, additional or different self-regulatory standards that may place additional burdens directly on our customers and target customers, and indirectly on us. Our products are expected to be capable of use by our customers in compliance with such laws and regulations. The functional and operational requirements and costs of compliance with such laws and regulations may adversely impact our business, and failure to enable our products to comply with such laws and regulations could lead to significant fines and penalties imposed by regulators, as well as claims by our customers or third parties. Additionally, all of these domestic and international legislative and regulatory initiatives could adversely affect our customers' ability or desire to collect, use, process and store shipment logistics information, which could reduce demand for our products.

The price of our common shares has in the past, including recently, been volatile and may also be volatile in the future.

The trading price of our common shares may be subject to fluctuation in the future. This may make it more difficult for you to resell your common shares when you want at prices that you find attractive or make it more difficult for us to raise capital through the issuance of common shares. Increases in our common share price may also increase our compensation expense pursuant to our existing director, officer and employee compensation arrangements. We enter into equity derivative contracts including floating-rate equity forwards to partially offset the potential fluctuations of certain share-based compensation expenses. Fluctuations in our common share price may be caused by events unrelated to our operating performance and beyond our control. Factors that may contribute to fluctuations include, but are not limited to:

- Revenue or results of operations in any quarter failing to meet the expectations, published or otherwise, of the investment community;
- Changes in recommendations or financial estimates by industry or investment analysts;
- Changes in management or the composition of our board of directors;
- Outcomes of litigation or arbitration proceedings;
- Announcements of technological innovations or acquisitions by us or by our competitors;
- Introduction of new products or significant customer wins or losses by us or by our competitors;
- Developments with respect to our intellectual property rights or those of our competitors;
- Fluctuations in the share prices of other companies in the technology and emerging growth sectors;
- General market conditions; and
- Other risk factors set out in this report.

If the market price of our common shares drops significantly, shareholders could institute securities class action lawsuits against us, regardless of the merits of such claims. Such a lawsuit could cause us to incur substantial costs and could divert the time and attention of our management and other resources from our business.

Fair value assessments of our intangible assets required by GAAP may require us to record significant non-cash charges associated with intangible asset impairment.

Significant portions of our assets, which include customer agreements and relationships, non-compete covenants, existing technologies and trade names, are intangible. We amortize intangible assets on a straight-line basis over their estimated useful lives. We review the carrying value of these assets at least

annually for evidence of impairment. In accordance with ASC Topic 360-10-35, "Property, Plant, and Equipment: Overview: Subsequent Measurement" an impairment loss is recognized when the estimate of undiscounted future cash flows generated by such assets is less than the carrying amount. Measurement of the impairment loss is based on the present value of the expected future cash flows. Future fair value assessments of intangible assets may require impairment charges to be recorded in the results of operations for future periods. This could impair our ability to achieve or maintain profitability in the future.

If our common share price decreases to a level such that the fair value of our net assets is less than the carrying value of our net assets, we may be required to record additional significant non-cash charges associated with goodwill impairment.

We account for goodwill in accordance with ASC Topic 350, "Intangibles – Goodwill and Other", which among other things, requires that goodwill be tested for impairment at least annually. We have designated October 31st for our annual impairment test. Should the fair value of our net assets, determined by our market capitalization, be less than the carrying value of our net assets at future annual impairment test dates, we may have to recognize goodwill impairment losses in our results of operations in future periods. This could impair our ability to achieve or maintain profitability in the future.

MANAGEMENT'S REPORT ON FINANCIAL STATEMENTS AND INTERNAL CONTROL OVER FINANCIAL REPORTING

Financial Statements

Management is responsible for the accompanying consolidated financial statements and all other information in this Annual Report. These consolidated financial statements have been prepared in accordance with US generally accepted accounting principles ("GAAP") and necessarily include amounts that reflect management's judgment and best estimates. Financial information contained elsewhere in this Annual Report is prepared on a basis consistent with the consolidated financial statements.

The Board of Directors carries out its responsibilities for the consolidated financial statements through its Audit Committee, consisting solely of independent directors. The Audit Committee meets with management and the independent auditors to review the consolidated financial statements and internal controls as they relate to financial reporting. The Audit Committee reports its findings to the Board of Directors for its consideration in approving the consolidated financial statements for issuance to shareholders.

Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed by, or under the supervision of, the Chief Executive Officer and Chief Financial Officer and effected by the Board of Directors, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements on a timely basis.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, management assessed the effectiveness of our internal control over financial reporting as of January 31, 2022, based on criteria established in "Internal Control – Integrated Framework" (2013), issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on the assessment, management concluded that, as of January 31, 2022, the design and operation of our internal control over financial reporting was effective.

Management's internal control over financial reporting as of January 31, 2022, has been audited by KPMG LLP, Independent Registered Public Accounting Firm, who also audited our Consolidated Financial Statements for the year ended January 31, 2022, as stated in the Report of Independent Registered Public Accounting Firm, which expressed an unqualified opinion on the effectiveness of our internal control over financial reporting as of January 31, 2022.

Changes in Internal Control Over Financial Reporting

During the fiscal year ended January 31, 2022, no changes were made to the Company's internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

'Edward J. Ryan'
Edward J. Ryan
Chief Executive Officer
Waterloo, Ontario

'Allan Brett'
Allan Brett
Chief Financial Officer
Waterloo, Ontario



KPMG LLP
Bay Adelaide Centre
Suite 4600
333 Bay Street
Toronto, ON Canada M5H 2S5
Telephone (416) 777-8500
Fax (416) 777-8818
www.kpmg.ca

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of The Descartes Systems Group Inc.

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of The Descartes Systems Group Inc. (the Company) as of January 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income, shareholders' equity, and cash flows for each of the years in the three-year period ended January 31, 2022, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of January 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 January 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of January 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 2, 2022 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

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

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

Critical Audit Matter

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

Determination of standalone selling prices of distinct performance obligations for customer contracts with multiple performance obligations

As discussed in Note 2 to the consolidated financial statements, the Company enters into contracts that can include the delivery of various combinations of goods and/or services. The accounting for a contract with a customer that contains multiple performance obligations requires an allocation of the transaction price to each distinct performance obligation based on the determination of the standalone selling price (SSP). SSP for each distinct performance obligation in a customer contract is an estimate of the price that would be charged for the specific good or service if it was sold separately in similar circumstances and to similar customers. This estimate determines the amount of revenue recognized for each performance obligation in a customer contract. If the Company does not have an observable SSP for a particular good or service, then SSP is estimated using reasonably available information and maximizing observable inputs with approaches including historical pricing, cost plus a margin, and the residual approach. When estimating the SSP, the Company makes certain significant assumptions including the basis for stratification of the underlying population of customer contracts based on pricing practices for different goods or services, as appropriate. The Company's consolidated revenues were \$424,690 thousand for the year ended January 31, 2022.

We identified the evaluation of the determination of the SSP of distinct performance obligations for customer contracts with multiple performance obligations as a critical audit matter. A higher degree of auditor judgment was required to evaluate the approach and the significant assumptions, including the basis for stratification, used to determine SSP for each distinct performance obligation in a customer contract.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of internal controls related to the critical audit matter, including controls related to the approach and significant assumptions used to determine SSP for distinct performance obligations in customer contracts with multiple performance obligations. We evaluated the approach used to determine SSP by comparing it to current pricing patterns in relevant customer contracts and the pricing practices observed in the industry. We examined certain revenue transactions from the SSP population and compared attributes such as price and level of the employee rendering the service to customer contracts and invoices to evaluate the significant assumptions used, including the basis of stratification.



Chartered Professional Accountants, Licensed Public Accountants

We have served as the Company's auditor since 2015.

Toronto, Canada
March 2, 2022



KPMG LLP
Bay Adelaide Centre
Suite 4600
333 Bay Street
Toronto, ON Canada M5H 2S5
Telephone (416) 777-8500
Fax (416) 777-8818
www.kpmg.ca

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of The Descartes Systems Group Inc.

Opinion on Internal Control Over Financial Reporting

We have audited The Descartes Systems Group Inc.'s internal control over financial reporting as of January 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 Descartes Systems Group Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of January 31, 2022, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of January 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income, shareholders' equity, and cash flows for each of the years in the three-year period ended January 31, 2022, and the related notes (collectively, the consolidated financial statements), and our report dated March 2, 2022 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

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

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

Definition and Limitations of Internal Control Over Financial Reporting

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

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

A handwritten signature in black ink that reads "KPMG LLP". The signature is written in a cursive, stylized font. Below the text, there is a long, horizontal, slightly wavy line that serves as a flourish or underline.

Chartered Professional Accountants, Licensed Public Accountants

Toronto, Canada

March 2, 2022

THE DESCARTES SYSTEMS GROUP INC.
CONSOLIDATED BALANCE SHEETS
(US DOLLARS IN THOUSANDS; US GAAP)

	January 31, 2022	January 31, 2021
ASSETS		
CURRENT ASSETS		
Cash	213,437	133,661
Accounts receivable (net)		
Trade (Note 5)	41,705	37,206
Other (Note 6)	14,075	14,830
Prepaid expenses and other	21,974	16,939
Inventory (Note 7)	868	429
	292,059	203,065
OTHER LONG-TERM ASSETS (Note 19)	18,652	15,550
PROPERTY AND EQUIPMENT, NET (Note 8)	10,817	12,089
RIGHT-OF-USE ASSETS (Note 13)	10,571	12,165
DEFERRED INCOME TAXES	14,962	15,216
INTANGIBLE ASSETS, NET (Note 9)	229,609	239,992
GOODWILL (Note 10)	608,761	565,177
	1,185,431	1,063,254
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES		
Accounts payable	10,566	7,955
Accrued liabilities (Note 11)	56,442	38,879
Lease obligations (Note 13)	4,029	4,168
Income taxes payable	5,616	3,383
Deferred revenue (Note 19)	56,780	49,878
	133,433	104,263
LONG-TERM DEBT (Note 12)	-	-
LEASE OBLIGATIONS (Note 13)	7,382	8,895
DEFERRED REVENUE (Note 19)	1,920	1,413
INCOME TAXES PAYABLE	7,354	8,230
DEFERRED INCOME TAXES	35,523	29,385
	185,612	152,186
COMMITMENTS, CONTINGENCIES AND GUARANTEES (Note 14)		
SHAREHOLDERS' EQUITY (Note 15)		
Common shares – unlimited shares authorized; Shares issued and outstanding totaled 84,756,210 at January 31, 2022 (January 31, 2021 – 84,494,658)	536,297	531,825
Additional paid-in capital	473,303	464,102
Accumulated other comprehensive loss	(12,393)	(1,189)
Retained earnings (accumulated deficit)	2,612	(83,670)
	999,819	911,068
	1,185,431	1,063,254

The accompanying notes are an integral part of these consolidated financial statements.

THE DESCARTES SYSTEMS GROUP INC.
CONSOLIDATED STATEMENTS OF OPERATIONS

(US DOLLARS IN THOUSANDS, EXCEPT PER SHARE AND WEIGHTED AVERAGE SHARE AMOUNTS; US GAAP)

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
REVENUES	424,690	348,664	325,791
COST OF REVENUES	101,810	89,910	85,721
GROSS MARGIN	322,880	258,754	240,070
EXPENSES			
Sales and marketing	46,895	38,785	40,389
Research and development	62,570	54,066	53,513
General and administrative	44,454	36,267	34,628
Other charges (Note 20)	6,428	2,335	3,797
Amortization of intangible assets	59,099	55,905	55,485
	219,446	187,358	187,812
INCOME FROM OPERATIONS	103,434	71,396	52,258
INTEREST EXPENSE	(1,123)	(1,186)	(4,416)
INVESTMENT INCOME	299	159	193
INCOME BEFORE INCOME TAXES	102,610	70,369	48,035
INCOME TAX EXPENSE (Note 18)			
Current	14,814	3,746	5,295
Deferred	1,514	14,523	5,743
	16,328	18,269	11,038
NET INCOME	86,282	52,100	36,997
EARNINGS PER SHARE (Note 16)			
Basic	1.02	0.62	0.45
Diluted	1.00	0.61	0.45
WEIGHTED AVERAGE SHARES OUTSTANDING (thousands)			
Basic	84,591	84,360	81,659
Diluted	86,200	85,756	82,867

The accompanying notes are an integral part of these consolidated financial statements.

THE DESCARTES SYSTEMS GROUP INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(US DOLLARS IN THOUSANDS; US GAAP)

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Comprehensive income			
Net Income	86,282	52,100	36,997
Other comprehensive income (loss):			
Foreign currency translation adjustment, net of income tax (recovery) expense of (\$348) for the year ended January 31, 2022 (January 31, 2021 – \$290; January 31, 2020 – (\$132))	(11,204)	24,755	(743)
Total other comprehensive income (loss)	(11,204)	24,755	(743)
COMPREHENSIVE INCOME	75,078	76,855	36,254

The accompanying notes are an integral part of these consolidated financial statements.

THE DESCARTES SYSTEMS GROUP INC.
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(US DOLLARS IN THOUSANDS; US GAAP)

	January 31, 2022	January 31, 2021	January 31, 2020
Common shares			
Balance, beginning of year	531,825	524,154	276,753
Stock options and share units exercised	4,472	7,671	1,788
Issuance of common shares, net of issuance costs (Note 15)	-	-	236,568
Acquisitions (Note 3)	-	-	9,045
Balance, end of year	536,297	531,825	524,154
Additional paid-in capital			
Balance, beginning of year	464,102	459,269	454,722
Stock-based compensation expense (Note 17)	11,017	6,313	4,909
Stock options and share units exercised	(1,816)	(1,480)	(362)
Balance, end of year	473,303	464,102	459,269
Accumulated other comprehensive income (loss)			
Balance, beginning of year	(1,189)	(25,944)	(25,201)
Other comprehensive income (loss), net of income taxes	(11,204)	24,755	(743)
Balance, end of year	(12,393)	(1,189)	(25,944)
Retained earnings (accumulated deficit)			
Balance, beginning of year	(83,670)	(135,770)	(172,767)
Net income	86,282	52,100	36,997
Balance, end of year	2,612	(83,670)	(135,770)
Total Shareholders' Equity	999,819	911,068	821,709

The accompanying notes are an integral part of these consolidated financial statements.

THE DESCARTES SYSTEMS GROUP INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(US DOLLARS IN THOUSANDS; US GAAP)

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
OPERATING ACTIVITIES			
Net income	86,282	52,100	36,997
Adjustments to reconcile net income to cash provided by operating activities:			
Depreciation	5,129	5,757	6,037
Amortization of intangible assets	59,099	55,905	55,485
Stock-based compensation expense (Note 17)	11,017	6,313	4,909
Other non-cash operating activities	308	207	337
Deferred tax expense	1,514	14,523	5,743
Changes in operating assets and liabilities (Note 21)	12,789	(3,575)	(5,256)
Cash provided by operating activities	176,138	131,230	104,252
INVESTING ACTIVITIES			
Additions to property and equipment	(4,829)	(3,759)	(4,900)
Acquisition of subsidiaries, net of cash acquired (Note 3)	(90,278)	(48,403)	(292,053)
Cash used in investing activities	(95,107)	(52,162)	(296,953)
FINANCING ACTIVITIES			
Proceeds from borrowing on the credit facility	-	10,196	297,015
Credit facility and other debt repayments	(1,068)	(10,793)	(322,634)
Payment of debt issuance costs	(72)	(40)	(1,400)
Issuance of common shares for cash, net of issuance costs (Note 15)	2,656	6,194	237,973
Payment of contingent consideration	-	-	(785)
Cash provided by financing activities	1,516	5,557	210,169
Effect of foreign exchange rate changes on cash	(2,771)	4,633	(363)
Increase in cash	79,776	89,258	17,105
Cash, beginning of year	133,661	44,403	27,298
Cash, end of year	213,437	133,661	44,403
Supplemental disclosure of cash flow information:			
Cash paid during the year for interest	-	89	3,516
Cash paid during the year for income taxes	12,575	8,214	8,946

The accompanying notes are an integral part of these consolidated financial statements.

THE DESCARTES SYSTEMS GROUP INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(TABULAR AMOUNTS IN THOUSANDS OF US DOLLARS, EXCEPT PER SHARE AMOUNTS OR AS OTHERWISE INDICATED;
US GAAP)

Note 1 - Description of the Business

The Descartes Systems Group Inc. ("Descartes", "Company", "our" or "we") is a provider of global logistics technology solutions. Customers use our modular, software-as-a-service ("SaaS") and data solutions to route, schedule, track and measure delivery resources; plan, allocate and execute shipments; rate, audit and pay transportation invoices; access and analyze global trade data; research and perform trade tariff and duty calculations; file customs and security documents for imports and exports; and complete numerous other logistics processes by participating in a large, collaborative multi-modal logistics community. Our pricing model provides our customers with flexibility in purchasing our solutions either on a subscription, transactional or perpetual license basis. Our primary focus is on serving transportation providers (air, ocean and truck modes), logistics service providers (including third-party logistics providers, freight forwarders and customs brokers) and distribution-intensive companies for which logistics is either a key or a defining part of their own product or service offering, or for which our solutions can provide an opportunity to reduce costs, improve service levels, or support growth by optimizing the use of assets and information.

Note 2 –Basis of Presentation

The accompanying consolidated financial statements are presented in United States ("US") dollars and are prepared in accordance with generally accepted accounting principles in the US ("GAAP") and the rules and regulations of the Canadian Securities Administrators and the US Securities and Exchange Commission ("SEC") for the preparation of consolidated financial statements.

The world continues to experience a global pandemic related to the spread of the COVID-19 virus (the "Pandemic"). The Pandemic has had disruptive effects in countries in which the Company operates, and the future impacts of the Pandemic and any resulting economic impact are largely unknown and rapidly evolving. As the impacts of the Pandemic continue to evolve, estimates and assumptions about future events and their effects cannot be determined with certainty and therefore require increased judgment. The future impact of Pandemic uncertainties could result in a significant impact on the reported amounts of assets, liabilities, revenue and expenses in these and any future consolidated financial statements. Examples of accounting estimates and judgments that may be impacted by the Pandemic include, but are not limited to; revenue recognition, impairment of goodwill and intangible assets and provisions for credit losses.

Our fiscal year commences on February 1st of each year and ends on January 31st of the following year. Our fiscal year, which ends on January 31, 2022, is referred to as the "current fiscal year", "fiscal 2022", "2022" or using similar words. Our previous fiscal year, which ended on January 31, 2021, is referred to as the "previous fiscal year", "fiscal 2021", "2021" or using similar words. Other fiscal years are referenced by the applicable year during which the fiscal year ends. For example, "2023" refers to the annual period ending January 31, 2023 and the "fourth quarter of 2023" refers to the quarter ending January 31, 2023.

Basis of consolidation

The consolidated financial statements include the financial statements of Descartes and our wholly-owned subsidiaries. We do not have any variable interests in variable interest entities. All intercompany accounts and transactions have been eliminated during consolidation.

Foreign currency translation

The US dollar is the presentation currency of the Company. Assets and liabilities of our subsidiaries are translated into US dollars at the exchange rate in effect at the balance sheet date. Revenues and expenses are translated into US dollars using daily exchange rates. Translation adjustments resulting from this process are accumulated in other comprehensive income (loss) as a separate component of shareholders' equity. On substantial liquidation of a foreign operation, the component of accumulated other comprehensive income relating to that particular foreign operation is recognized in the consolidated statements of operations.

The functional currency of each of our entities is generally the local currency in which they operate. Transactions incurred in currencies other than the local currency of an entity are converted to the local currency at the transaction date. Monetary assets and liabilities denominated in foreign currencies are re-measured into the local currency at the exchange rate in effect at the balance sheet date. All foreign currency re-measurement gains and losses are included in net income. For the year ended January 31, 2022, foreign currency re-measurement loss of \$0.3 million was included in net income (January 31, 2021 – loss of \$0.8 million; January 31, 2020 – loss of \$0.6 million).

Use of estimates

Preparing financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts that are reported in the consolidated financial statements and accompanying note disclosures. Although these estimates and assumptions are based on management's best knowledge of current events, actual results may be different from the estimates. These estimates, judgments and assumptions are evaluated on an ongoing basis. We base our estimates on historical experience and on various other assumptions that we believe are reasonable at that time, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources.

Estimates and assumptions are used when accounting for items such as allocations of the purchase price and the fair value of net assets acquired in business combination transactions, useful lives of intangible assets and property and equipment, revenue related estimates including determining the nature and timing of satisfaction of performance obligations, variable consideration, and other obligations such as product returns and refunds, allowance for doubtful accounts, collectability of other receivables, provisions for excess or obsolete inventory, determining the Company's incremental borrowing rate, restructuring accruals, fair value of stock-based compensation, assumptions embodied in the valuation of assets for impairment assessment, accounting for income taxes, valuation allowances for deferred income tax assets, realization of investment tax credits, uncertain tax positions and recognition of contingencies. Significant assumptions and judgment are used when determining the standalone selling price ("SSP") of performance obligations in contracts with customers.

Cash

Cash included highly liquid short-term deposits with original maturities of three months or less.

Financial instrumentsFair value of financial instruments

The carrying amounts of the Company's cash, accounts receivable (net), accounts payable, accrued liabilities and income taxes payable approximate their fair value due to their short maturities.

Derivative instruments

We use derivative instruments to manage equity risk relating to our share-based compensation. We account for these instruments in accordance with ASC Topic 815 "Derivatives and Hedging" (Topic 815), which requires that every derivative instrument be recorded on the balance sheet as either an asset or a liability measured at its fair value as of the reporting date. We do not designate our derivative instruments as hedges and as such the changes in our derivative financial instruments' fair values are recognized in earnings. The fair value of equity contract derivatives is determined utilizing a valuation model based on the quoted market value of our common shares at the balance sheet date.

Foreign exchange risk

We are exposed to foreign exchange risk because the Company transacts business in currencies other than the US dollar. Accordingly, our results are affected, and may be affected in the future, by exchange rate fluctuations of the US dollar relative to the Canadian dollar, euro, British pound sterling and various other foreign currencies.

Interest rate risk

Depending on the type of advance under the available facilities, interest on such borrowings will be charged based on either i) Canada or US prime rate; or ii) Banker's Acceptance (BA); or iii) US dollar London Interbank Offer Rate (LIBOR); or iv) the Secured Overnight Financing Rate (SOFR). We are exposed to interest rate fluctuations to the extent that we borrow on our credit facility.

Credit risk

We are exposed to credit risk through our invested cash and accounts receivable. We hold our cash with reputable financial institutions. The lack of concentration of accounts receivable from a single customer and the dispersion of customers among industries and geographical locations mitigate our credit risk.

We do not use any type of speculative financial instruments, including but not limited to foreign exchange contracts, futures, swaps and option agreements, to manage our foreign exchange or interest rate risks. In addition, we do not hold or issue financial instruments for trading purposes.

Equity risk

We are exposed to equity risk through certain share-based compensation expenses that are fair valued at the balance sheet date. The Company enters into equity derivative contracts including floating-rate equity forwards to partially offset the potential fluctuations of certain future share-based compensation expenses. The Company does not hold derivatives for speculative purposes.

Provision for Credit Losses

We are exposed to credit losses primarily through our trade accounts receivable and contract assets. The provision for credit losses is determined utilizing a model of historical losses data. In estimating the provision for credit losses, we considered the age of the receivable, our historical write-offs and the historical creditworthiness of the customer, among other factors. Should any of these factors change, the estimates made by us will also change accordingly, which could affect the level of our future provisions.

Inventory

Finished goods inventories are stated at the lower of cost and net realizable value. The cost of finished goods is determined on the basis of average cost of units.

The valuation of inventory, including the determination of obsolete or excess inventory, requires management to estimate the future demand for our products within specified time horizons. We perform an assessment of inventory which includes a review of, among other factors, demand requirements, product life cycle and development plans, product pricing and quality issues. If the demand for our products indicates we are no longer able to sell inventories above cost or at all, we write down inventory to market or excess inventory is written off.

Impairment of long-lived assets

We test long-lived assets or asset groups, such as property and equipment and finite life intangible assets, for recoverability when events or changes in circumstances indicate that there may be impairment. Circumstances which could trigger a review include, but are not limited to: significant adverse changes in the business climate or legal factors; current period cash flow or operating losses combined with a history of losses or a forecast of continuing losses associated with the use of the asset or asset group; and a current expectation that the asset or asset group will more likely than not be sold or disposed of before the end of its estimated useful life. An impairment loss is recognized when the estimate of undiscounted future cash flows generated by such asset or asset group is less than the carrying amount. Measurement of the impairment loss is based on the present value of the expected future cash flows. No impairment of long-lived assets has been identified or recorded in our consolidated statements of operations for any of the fiscal years presented.

Goodwill and intangible assets

Goodwill represents the excess of the purchase price in a business combination over the fair value of net tangible and intangible assets acquired. Goodwill is not subject to amortization.

We test for impairment of goodwill at least annually on October 31st of each year and at any other time if any event occurs or circumstances change that would more likely than not reduce our fair value below our reporting unit's carrying amount. Our operations are analyzed by management and our chief operating decision maker as being part of a single industry segment providing logistics technology solutions. Accordingly, our goodwill impairment assessment is based on the allocation of goodwill to a single reporting unit. We completed the qualitative assessment during our third quarter of 2022 and concluded that it was more likely than not that the fair value of the goodwill was greater than the carrying value. As a result, no impairment of goodwill was recorded in fiscal 2022 (no impairments were recorded for fiscal 2021 or fiscal 2020).

Intangible assets related to our acquisitions are recorded at their fair value at the acquisition date. Intangible assets include customer agreements and relationships, non-compete covenants, existing technologies and trade names. Intangible assets are amortized on a straight-line basis over their estimated useful lives. We write down intangible asset or asset groups with a finite life to fair value when the related undiscounted cash flows are not expected to allow for recovery of the carrying value. Fair value of intangible asset or asset groups is determined by discounting the expected related future cash flows.

Amortization of our intangible assets is generally recorded at the following rates:

Customer agreements and relationships	Straight-line over two to twenty years
Existing technologies	Straight-line over four to twelve years
Trade names	Straight-line over three to fifteen years
Non-compete covenants	Straight-line over two to twelve years

Property and equipment

Property and equipment is recorded at cost.

Effective February 1, 2020, we changed our accounting method for property & equipment from the declining balance method of depreciation to the straight-line method of depreciation to better reflect the consumption of the assets' economic benefits. Our change in the method of depreciation is considered a change in accounting estimate effected by a change in accounting principle and has been applied prospectively. The change in the method of depreciation did not have a material impact on our results of operations.

Depreciation of our property and equipment is generally recorded at the following rates:

Computer equipment and software	Straight-line over 1 to 13 years
Furniture and fixtures	Straight-line over 3 to 14 years
Leasehold improvements	Straight-line over lesser of useful life or term of lease

Equipment installed with customers Straight-line over 3 years

Fully depreciated property and equipment are removed from the balance sheet when they are no longer in use.

Leases

At the inception of a contract we assess whether a contract is, or contains, a lease based on whether the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. We have building lease agreements with lease and non-lease components, which are accounted for separately. For computer equipment and vehicle leases, we have elected to account for the lease and non-lease components as a single lease component.

We recognize a right-of-use ("ROU") asset and a lease liability at the lease commencement date. The ROU asset is initially measured based on the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and less any lease incentives received. The assets are depreciated to the earlier of the end of the useful life of the ROU asset or the lease term using the straight-line method as this most closely reflects the expected pattern of consumption of the future economic benefits. The lease term includes periods covered by an option to extend if the Company is reasonably certain to exercise that option.

The lease liability is initially measured at the present value of the future lease payments at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Company's incremental borrowing rate. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments.

The lease liability is measured at amortized cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Company's estimate of the amount expected to be payable under a residual value guarantee, or if the Company changes its assessment of whether it will exercise a purchase, extension or termination option. When the lease liability is remeasured, a corresponding adjustment is made to the carrying amount of the ROU asset, or is recorded in profit or loss if the carrying amount of the ROU asset has been reduced to zero.

We have elected to apply the practical expedient not to recognize ROU assets and lease liabilities for short-term leases that have a lease term of 12 months or less. The lease payments associated with these leases are recognized as an expense on a straight-line basis over the lease term.

Revenue recognition

Revenue is recognized upon transfer of control of promised goods or services to customers in an amount that reflects the consideration we expect to receive in exchange for those goods or services. We enter into contracts that can include the delivery of various combinations of goods and/or services, which are generally capable of being distinct within the context of the contract and accounted for as separate performance obligations. A product or service is distinct if the customer can benefit from it on its own or together with other readily available resources and the promise to transfer the good or service is separately identifiable from other promises in the contractual arrangement with the customer. Non-distinct goods and services are combined with other goods or services until they are distinct as a bundle and therefore form a single performance obligation. The accounting for a contract with a customer that contains multiple performance obligations requires an allocation of the transaction price to each distinct performance obligation based on the determination of the SSP. SSP for each distinct performance obligation in a customer contract is an estimate of the price that would be charged for the specific good or service if it

was sold separately in similar circumstances and to similar customers. This estimate determines the amount of revenue recognized for each performance obligation in a customer contract.

Revenue is recognized net of any taxes collected from customers, which are subsequently remitted to governmental authorities. In addition to these general policies, the specific revenue recognition policies for each major category of revenue are included below.

License

Revenues for distinct licenses for on-premise or hosted software are derived from perpetual licenses granted to our customers for the right to use our software products. License revenues are billed on the effective date of a contract and revenue is recognized at the point in time when the customer is provided control of the respective software.

Services

Services, which allow customers to access hosted software over a contract term without taking possession of the software, is provided on a subscription and/or transactional fee basis. Revenues from hosted software subscriptions and maintenance are typically billed annually in advance and revenue is recognized on a ratable basis over the contract term beginning on the date that our service is made available to the customer. Transaction fees are typically billed and recognized as revenue on a monthly basis based on the customer usage for that period.

Professional Services & Other

Professional services are comprised of consulting, implementation and training services related to our services and products. These services are generally considered to be separate performance obligations as they provide incremental benefit to customers beyond providing access to the software. Professional services are typically billed on a time and materials basis and revenue is recognized over time as the services are performed. For professional services contracts billed on a fixed price basis, revenue is recognized over time based on the proportion of services performed. Revenue related to customer reimbursement of travel related expenses is recognized on a gross basis as incurred. Other revenues include hardware revenue and is generally billed, and revenue is recognized, when control of the product has transferred under the terms of an enforceable contract.

Our contracts with customers often include promises to transfer multiple goods and services to a customer. Determining whether goods and services are considered distinct performance obligations that should be accounted for separately versus together may require judgment. Judgment is also needed in assessing the ability to collect the corresponding receivables.

Significant assumptions and judgment are required to determine the SSP for each distinct performance obligation, which is needed to determine whether there is a discount that needs to be allocated based on the relative SSP of the various goods and services. When estimating the SSP, we make certain significant assumptions including the basis for stratification of the underlying population of customer contracts based on pricing practices for different goods or services, as appropriate. In order to determine the SSP of its promised goods or services, we conduct a regular analysis to determine whether various goods or services have an observable standalone selling price. If the Company does not have an observable SSP for a particular good or service, then SSP for that particular good or service is estimated using reasonably available information and maximizing observable inputs with approaches including historical pricing, cost plus a margin, and the residual approach.

Costs to obtain a contract with a customer

We recognize an asset for the incremental costs of obtaining a contract with a customer if we expect the costs to be recoverable. We have determined that certain sales incentive programs meet the requirements to be capitalized. These capitalized costs are amortized consistent with the pattern of transfer to the customer for the goods and services to which the asset relates, including specifically identifiable contract renewals. The period of benefit including renewals is determined to be generally between four to six years, taking into consideration our customer contracts, our technology, renewal behaviors and other factors. Amortization of the asset is included in sales and marketing expenses in the consolidated statements of

operations. Applying the practical expedient, we recognize the incremental costs of obtaining contracts as an expense when incurred if the amortization period of the assets that we otherwise would have recognized is one year or less.

Contract assets and liabilities

The payment terms and conditions in our customer contracts may vary from the timing of revenue recognition. In some cases, customers pay in advance of delivery of products or services; in other cases, payment is due as services are performed or in arrears following delivery. Timing differences between revenue recognition and invoicing result in unbilled receivables, contract assets, or deferred revenue. Receivables are accrued when revenue is recognized prior to invoicing but the right to payment is unconditional (i.e., only the passage of time is required). This occurs most commonly when software term licenses recognized at a point in time are paid for periodically over the license term. Contract assets result when amounts allocated to distinct performance obligations are recognized as revenue and control of a product or service is transferred to the customer, but invoicing is contingent on performance of other performance obligations or on completion of contractual milestones and is presented as other receivables. Contract assets are transferred to receivables when the rights become unconditional, typically upon invoicing of the related performance obligations in the contract or upon achieving the requisite project milestone. Contract liabilities primarily relate to the advance consideration received from customers and is presented as deferred revenue. Deferred revenue results from customer payments in advance of our satisfaction of the associated performance obligation(s) and relates primarily to prepaid maintenance or other recurring services. Deferred revenues are relieved as revenue is recognized. Contract assets and deferred revenues are reported on a contract-by-contract basis at the end of each reporting period.

Research and development costs

To date, we have not capitalized any costs related to research and development of our computer software products. Costs incurred between the dates that the product is considered to be technologically feasible and is considered to be ready for general release to customers have historically been expensed as they have not been significant.

Stock-based compensation plans

Stock Options

We maintain stock option plans for non-employee directors, officers, employees and other service providers. Options to purchase our common shares are granted at an exercise price equal to the fair market value of our common shares as of the date of grant. This fair market value is determined using the closing price of our common shares on the TSX on the day immediately preceding the date of the grant.

Employee stock options generally vest over a five-year period starting from the grant date and expire seven years from the grant date. Non-employee directors' and officers' stock options generally have quarterly vesting over a three to five-year period. We issue new shares from treasury upon the exercise of a stock option. Forfeitures are accounted for as they occur.

The fair value of employee stock option grants that are ultimately expected to vest are amortized to expense in our consolidated statement of operations based on the straight-line attribution method. The fair value of stock option grants is calculated using the Black-Scholes Merton option-pricing model. Expected volatility is based on historical volatility of our common stock and other factors. The risk-free interest rates are based on Government of Canada average bond yields for a period consistent with the expected life of the option in effect at the time of the grant. The expected option life is based on the historical life of our granted options and other factors.

Performance & Restricted Share Units

We maintain a performance and restricted share unit plan pursuant to which certain of our officers are eligible to receive grants of performance share units ("PSUs") and restricted share units ("RSUs").

PSUs vest at the end of a three-year performance period. The ultimate number of PSUs that vest is based on the total shareholder return ("TSR") of our Company relative to the TSR of companies comprising a

peer index group. TSR is calculated based on the weighted-average closing price of shares for the five trading days preceding the beginning and end of the performance period. The fair value of PSUs is expensed to stock-based compensation expense over the vesting period. PSUs expire ten years from the grant date. New shares are issued from treasury upon the redemption of a PSU.

PSUs are measured at fair value estimated using a Monte Carlo Simulation approach. Expected volatility is based on historical volatility of our common stock and other factors. The risk-free interest rates are based on the Government of Canada average bond yields for a period consistent with the expected life of the PSUs at the time of the grant.

RSUs vest annually over a three-year period starting from the grant date and expire ten years from the grant date. We issue new shares from treasury upon the redemption of an RSU.

RSUs are measured at fair value based on the closing price of our common shares for the day preceding the date of the grant and will be expensed to stock-based compensation expense over the vesting period.

Deferred Share Unit Plan

Our board of directors adopted a deferred share unit plan effective as of June 28, 2004, pursuant to which non-employee directors are eligible to receive grants of deferred share units ("DSUs"), each of which has an initial value equal to the weighted-average closing price of our common shares for the five trading days preceding the grant date. The plan allows each director to choose to receive, in the form of DSUs, all, none or a percentage of the eligible director's fees which would otherwise be payable in cash. If a director has invested less than the minimum amount of equity in Descartes, as prescribed from time to time by the board of directors, then the director must take at least 50% of the base annual fee for serving as a director in the form of DSUs. Each DSU fully vests upon award but is distributed only when the director ceases to be a member of the board of directors. Vested units are settled in cash based on our common share price when conversion takes place. Fair value of the liability is based on the closing price of our common shares at the balance sheet date.

Cash-Settled Restricted Share Unit Plan

Our board of directors adopted a cash-settled restricted share unit plan effective as of May 23, 2007, pursuant to which certain of our employees and non-employee directors are eligible to receive grants of cash-settled restricted share units ("CRSUs"), each of which has an initial value equal to the weighted-average closing price of our common shares for the five trading days preceding the date of the grant. The CRSUs generally vest based on continued employment and have annual vesting over three to five-year periods. Vested units are settled in cash based on our common share price when conversion takes place, which is within 30 days following a vesting date and in any event prior to December 31st of the calendar year in which a vesting date occurs. Fair value of the liability is based on the closing price of our common shares at the balance sheet date.

Business combinations

We apply the provisions of ASC Topic 805, "Business Combinations" (Topic 805), in the accounting for our acquisitions. It requires us to recognize separately from goodwill, the assets acquired and the liabilities assumed at their acquisition date fair values including certain identifiable intangible assets (other than goodwill). Goodwill as of the acquisition date is measured as the excess of consideration transferred over the net of the acquisition date fair values of the assets acquired and the liabilities assumed. The determination of the acquisition date fair value of the intangible assets acquired requires us to make estimates and assumptions regarding projected revenues, earnings before interest, taxes, depreciation and amortization, technology migration rates, customer attrition rates and discount rates.

While we use our best estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date as well as contingent consideration, where applicable, our estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement

period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments would be recorded to our consolidated statement of operations.

Costs to exit or restructure certain activities of an acquired company or our internal operations are accounted for as termination and exit costs pursuant to ASC Topic 420, "Exit or Disposal Cost Obligations" (Topic 420) and are accounted for separately from the business combination.

For a given acquisition, we generally identify certain pre-acquisition contingencies as of the acquisition date and may extend our review and evaluation of these pre-acquisition contingencies throughout the measurement period in order to obtain sufficient information to assess whether we include these contingencies as a part of the purchase price allocation and, if so, to determine the estimated amounts. If we determine that a pre-acquisition contingency (non-income tax related) is probable in nature and estimable as of the acquisition date, we record our best estimate for such a contingency as a part of the preliminary purchase price allocation. We often continue to gather information and evaluate our pre-acquisition contingencies throughout the measurement period and if we make changes to the amounts recorded or if we identify additional pre-acquisition contingencies during the measurement period, such amounts will be included in the purchase price allocation during the measurement period and, subsequent to the measurement period, in our results of operations.

Uncertain tax positions and tax related valuation allowances assumed in connection with a business combination are initially estimated as of the acquisition date. We review these items during the measurement period as we continue to actively seek and collect information relating to facts and circumstances that existed at the acquisition date. Changes to these uncertain tax positions and tax related valuation allowances made subsequent to the measurement period, or if they relate to facts and circumstances that did not exist at the acquisition date, are recorded in our provision for income taxes in our consolidated statement of operations.

Income taxes

We use the liability method of income tax allocation to account for income taxes. Deferred tax assets and liabilities arise from temporary differences between the tax bases of assets and liabilities and their reported amounts in the consolidated financial statements that will result in taxable or deductible amounts in future years. These temporary differences are measured using enacted tax rates. A valuation allowance is recorded to reduce deferred tax assets to the extent that we consider it is more likely than not that a deferred tax asset will not be realized. In determining the valuation allowance, we consider factors such as the reversal of deferred income tax liabilities, projected taxable income, our history of losses for tax purposes, and the character of income tax assets and tax planning strategies. A change to these factors could impact the estimated valuation allowance and income tax expense.

We evaluate our uncertain tax positions by using a two-step approach to recognize and measure uncertain tax positions and provisions for income taxes. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates it is more likely than not, based solely on the technical merits, that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the appropriate amount of the benefit to recognize. The amount of benefit to recognize is measured as the maximum amount which is more likely than not to be realized. The tax position is derecognized when it is no longer more likely than not that the position will be sustained on audit. We continually assess the likelihood and amount of potential adjustments and adjust the income tax provisions, income taxes payable and deferred income taxes in the period in which the facts that give rise to a revision become known.

Earnings per share

Basic earnings per share is calculated by dividing net income by the weighted average number of common shares outstanding during the period. Diluted earnings per common share is calculated by dividing net income by the sum of the weighted average number of common shares outstanding and all additional common shares that would have been outstanding if potentially dilutive common shares had been issued

during the period. The treasury stock method is used to compute the dilutive effect of stock-based compensation.

Recently adopted accounting pronouncements

In February 2016, the FASB issued Accounting Standards Update 2016-02, "Leases (Topic 842)" ("ASU 2016-02") and issued subsequent amendments to the initial guidance during 2018, collectively referred to as "ASC 842". These updates supersede the lease guidance in ASC Topic 840, "Leases" and require the recognition of lease assets and lease liabilities by lessees for most leases previously classified as operating leases under ASC Topic 840. Leases will continue to be classified as either operating or finance. ASC 842 was effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2018, which was our fiscal year that began on February 1, 2019 (fiscal 2020). The Company adopted ASC 842 as of February 1, 2019 using the cumulative effect method.

As permitted under ASC 842, we have elected to apply the practical expedient to carry forward our current assessments of whether a contract contains a lease, lease classification, remaining lease terms and amounts capitalized as initial direct costs. We have also elected to apply the practical expedient not to recognize right-of-use (ROU) assets and lease liabilities for short-term leases that have a lease term of 12 months or less. The adoption of ASC 842 resulted in an increase to ROU assets and lease liabilities of \$10.4 million as of February 1, 2019. The adoption of ASC 842 did not have a material impact on either our consolidated statement of operations or our consolidated statement of cash flows.

In June 2016, the FASB issued Accounting Standards Update 2016-13, "Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments" ("ASU 2016-13") and issued subsequent amendments to the initial guidance during the 2019 calendar year, collectively referred to as "ASC 326". ASC 326 requires the measurement and recognition of expected credit losses for financial assets held at amortized cost. ASC 326 replaces the existing incurred loss impairment model with an expected loss model which requires the use of forward-looking information to calculate credit loss estimates. ASC 326 was effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2019, which was our fiscal year that began on February 1, 2020 (fiscal 2021).

The Company is exposed to credit losses primarily through its trade accounts receivable and contract assets. The provision for credit losses is determined utilizing a model of historical losses data. In estimating the provision for credit losses, we considered the age of the receivable, our historical write-offs and the historical creditworthiness of the customer, among other factors. Should any of these factors change, the estimates made by us will also change accordingly, which could affect the level of our future provisions. The Company adopted ASC 326 as of February 1, 2020 using the cumulative effect method and therefore the comparative information has not been restated. The adoption of ASC 326 did not have a material impact on our results of operations or disclosures.

In January 2017, the FASB issued Accounting Standards Update 2017-04, "Intangibles – Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment" ("ASU 2017-04"). ASU 2017-04 simplifies how an entity is required to test goodwill for impairment. ASU 2017-04 was effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2019, which was our fiscal year that began on February 1, 2020 (fiscal 2021). The Company adopted this guidance in the first quarter of fiscal 2021. The adoption of this guidance did not have a material impact on our results of operations or disclosures.

In August 2018, the FASB issued Accounting Standards Update 2018-15, "Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract" ("ASU 2018-15"). ASU 2018-15 aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. ASU 2018-15 was effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2019, which was our fiscal year that began on February 1,

2020 (fiscal 2021). The Company adopted this guidance in the first quarter of fiscal 2021. The adoption of this guidance did not have a material impact on our results of operations or disclosures.

In December 2019, the FASB issued Accounting Standards Update 2019-12, "Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes" ("ASU 2019-12"). ASU 2019-12 simplifies how an entity accounts for income taxes. ASU 2019-12 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2020, which is our fiscal year that began on February 1, 2021 (fiscal 2022). The Company adopted this guidance in the first quarter of fiscal 2022. The adoption of this guidance did not have a material impact on our results of operations or disclosures.

Recently issued accounting pronouncements

In October 2021, the FASB issued Accounting Standards Update 2021-08, "Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers" ("ASU 2021-08"). ASU 2021-08 provides guidance on how to recognize and measure acquired contract assets and liabilities from revenue contracts in a business combination. ASU 2021-08 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2022, which will be our fiscal year beginning February 1, 2023 (fiscal 2024). Early adoption is permitted. The Company will adopt this guidance in the first quarter of fiscal 2024. The adoption of this guidance is not expected to have a material impact on our results of operations or disclosures.

Note 3 – Acquisitions

Fiscal 2022 Acquisitions

On February 26, 2021, Descartes acquired all of the shares of VitaDex Solutions, LLC, doing business as QuestaWeb ("QuestaWeb"), a US-based provider of foreign trade zone and customs compliance solutions. The purchase price for the acquisition was approximately \$35.9 million, net of cash acquired, which was funded from cash on hand. The gross contractual amount of trade receivables acquired was \$0.6 million with a fair value of \$0.5 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was \$0.1 million. The purchase price was finalized in the three month period ended January 31, 2022 with no adjustments.

On May 7, 2021, Descartes acquired all of the shares of Portrix Logistics Software GmbH ("Portrix"), a provider of multimodal rate management solutions for logistics services providers. The purchase price for the acquisition was approximately \$25.2 million (EUR 20.7 million), net of cash acquired, which was funded from cash on hand. The gross contractual amount of trade receivables acquired was \$0.7 million with a fair value of \$0.7 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was nominal. The completion of the initial purchase price allocation is pending the finalization of the fair value for trade receivables, accrued liability balances as well as potential unrecorded liabilities. We expect to finalize the purchase price allocation on or before May 7, 2022.

On July 8, 2021, Descartes acquired all of the shares of GreenMile, LLC ("GreenMile"), a provider of cloud-based mobile route execution solutions for food, beverage, and broader distribution verticals. The purchase price for the acquisition was approximately \$29.2 million, net of cash acquired, which was funded from cash on hand. Additional contingent consideration of up to \$10.0 million in cash is payable if certain revenue performance targets are met by GreenMile in the two years following the acquisition. The fair value of the contingent consideration was valued at \$3.3 million at the acquisition date. The gross contractual amount of trade receivables acquired was \$1.1 million with a fair value of \$1.0 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was \$0.1 million. The completion of the initial purchase price allocation is pending the finalization of the fair value for trade receivables, accrued liability balances as well as potential unrecorded liabilities. We expect to finalize the purchase price allocation on or before July 8, 2022.

For the businesses acquired during fiscal 2022, we incurred acquisition-related costs of \$0.9 million for the year ended January 31, 2022, respectively. The acquisition-related costs were primarily for advisory services and are included in other charges in our consolidated statements of operations. For the year ended January 31, 2022, we have recognized aggregate revenues of \$12.0 million, respectively, and a

net loss of \$1.3 million from QuestaWeb, Portrix and GreenMile since the date of acquisition in our consolidated statements of operations.

The final purchase price allocation for QuestaWeb and the preliminary purchase price allocations for Portrix and GreenMile, which have not been finalized, are as follows:

	Questa Web	Portrix	Green Mile	Total
Purchase price consideration:				
Cash, less cash acquired related to QuestaWeb (\$2,097), Portrix (\$200) and GreenMile (\$1,552)	35,860	25,188	29,230	90,278
Contingent consideration	-	-	3,339	3,339
Net working capital adjustments payable / (receivable)	17	(54)	(308)	(345)
	<u>35,877</u>	<u>25,134</u>	<u>32,261</u>	<u>93,272</u>
Allocated to:				
Current assets, excluding cash acquired	714	810	2,186	3,710
Property and equipment	78	-	89	167
Right-of-use assets	123	374	-	497
Other long-term assets	-	-	242	242
Current liabilities	(170)	(871)	(1,498)	(2,539)
Deferred revenue	(736)	(499)	(909)	(2,144)
Lease obligations	(123)	(374)	-	(497)
Deferred income tax liability	-	(5,185)	(752)	(5,937)
Long-term income taxes payable	-	-	(365)	(365)
Debt	-	(1,062)	-	(1,062)
Net tangible assets (liabilities) assumed	<u>(114)</u>	<u>(6,807)</u>	<u>(1,007)</u>	<u>(7,928)</u>
Finite life intangible assets acquired:				
Customer agreements and relationships	4,800	4,014	5,700	14,514
Existing technology	8,900	12,286	14,000	35,186
Trade names	100	122	100	322
Non-compete covenants	500	487	500	1,487
Goodwill	<u>21,691</u>	<u>15,032</u>	<u>12,968</u>	<u>49,691</u>
	<u>35,877</u>	<u>25,134</u>	<u>32,261</u>	<u>93,272</u>

The above transactions were accounted for using the acquisition method in accordance with ASC Topic 805, "Business Combinations". The purchase price allocations in the table above represent our estimates of the allocation of the purchase price and the fair value of net assets acquired. The preliminary purchase price allocations may differ from the final purchase price allocations, and these differences may be material. Revisions to the allocations will occur as additional information about the fair value of assets and liabilities becomes available. The final purchase price allocations will be completed within one year from the acquisition date.

The acquired intangible assets are being amortized over their estimated useful lives as follows:

	QuestaWeb	Portrix	GreenMile
Customer agreements and relationships	13 years	13 years	13 years
Existing technology	6 years	6 years	6 years
Trade names	3 years	3 years	3 years
Non-compete covenants	5 years	2 years	5 years

The goodwill on the QuestaWeb, Portrix and GreenMile acquisitions arose as a result of the combined strategic value to our growth plan. The goodwill arising from the QuestaWeb and GreenMile acquisition is deductible for tax purposes. The goodwill arising from the Portrix acquisition is not deductible for tax purposes.

Fiscal 2021 Acquisitions

On February 21, 2020, Descartes acquired all of the shares of Peoplevox Limited ("Peoplevox"), a UK-based provider of cloud-based ecommerce warehouse management solutions. The purchase price for the acquisition was approximately \$24.1 million, net of cash acquired, which was funded from a combination of cash on hand and drawing on Descartes' existing credit facility. The gross contractual amount of trade receivables acquired was \$0.4 million with a fair value of \$0.4 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was nominal. The purchase price was finalized in the three month period ended January 31, 2021 with no adjustments.

On June 10, 2020 Descartes acquired all of the shares of Cracking Logistics Limited ("Kontainers"), a UK-based provider of client-facing digital freight execution platforms. The purchase price for the acquisition was approximately \$5.2 million, net of cash acquired, which was funded from cash on hand. Additional contingent consideration of up to \$6.0 million in cash is payable if certain revenue performance targets are met by Kontainers in the two years following the acquisition. The fair value of the contingent consideration was valued at \$1.4 million at the acquisition date. The gross contractual amount of trade receivables acquired was \$0.2 million with a fair value of \$0.2 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was nominal. The purchase price was finalized in the three month period ended July 31, 2021 with no adjustments.

On November 6, 2020, Descartes acquired all of the shares of ShipTrack Inc. ("ShipTrack"), a provider of cloud-based mobile resource management and shipment tracking solutions. The purchase price for the acquisition was approximately \$19.0 million, net of cash acquired, which was funded from cash on hand. Additional contingent consideration of up to CAD 25.0 million in cash is payable if certain revenue performance targets are met by ShipTrack in the two years following the acquisition. The fair value of the contingent consideration was valued at \$2.8 million at the acquisition date. The gross contractual amount of trade receivables acquired was \$1.7 million with a fair value of \$1.7 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was nominal. The purchase price was finalized in the three month period ended October 31, 2021 with no adjustments.

The final purchase price allocations for businesses we acquired during 2021 are as follows:

	Peoplevox	Kontainers	ShipTrack	Total
Purchase price consideration:				
Cash, less cash acquired related to Peoplevox (\$1,634), Kontainers (overdraft of \$13) and ShipTrack (\$529)	24,137	5,237	19,029	48,403
Consideration payable	-	100	-	100
Contingent consideration	-	1,414	2,825	4,239
Net working capital adjustments (receivable) / payable	(42)	(87)	64	(65)
	<u>24,095</u>	<u>6,664</u>	<u>21,918</u>	<u>52,677</u>
Allocated to:				
Current assets, excluding cash acquired	485	469	1,853	2,807
Right-of-use assets	-	-	151	151
Current liabilities	(776)	(1,074)	(693)	(2,543)
Deferred revenue	(748)	(102)	(204)	(1,054)
Lease obligations	-	-	(151)	(151)
Deferred income tax liability	(1,615)	-	(4,012)	(5,627)
Debt	-	-	(728)	(728)
Net tangible assets (liabilities) assumed	<u>(2,654)</u>	<u>(707)</u>	<u>(3,784)</u>	<u>(7,145)</u>
Finite life intangible assets acquired:				
Customer agreements and relationships	3,631	800	3,905	8,336
Existing technology	7,651	3,000	11,102	21,753
Trade names	-	30	77	107
Non-compete covenants	285	80	291	656
Goodwill	<u>15,182</u>	<u>3,461</u>	<u>10,327</u>	<u>28,970</u>
	<u>24,095</u>	<u>6,664</u>	<u>21,918</u>	<u>52,677</u>

The acquired intangible assets are being amortized over their estimated useful lives as follows:

	Peoplevox	Kontainers	ShipTrack
Customer agreements and relationships	10 years	12 years	13 years
Existing technology	6 years	5 years	6 years
Trade names	N/A	3 years	3 years
Non-compete covenants	5 years	5 years	5 years

The goodwill on the Peoplevox, Kontainers and ShipTrack acquisitions arose as a result of the combined strategic value to our growth plan. The goodwill arising from the Peoplevox, Kontainers and ShipTrack acquisitions are not deductible for tax purposes.

Fiscal 2020 Acquisitions

On February 12, 2019, Descartes acquired substantially all of the assets of the businesses run by the Management Systems Resources Inc. group of companies (collectively, "Visual Compliance"), a provider of software solutions and services to automate customs, trade and fiscal compliance processes including denied and restricted party screening processes and export licensing. The purchase price for the acquisition was approximately \$248.9 million, net of cash acquired, which was funded from a combination of drawing on Descartes' existing credit facility and issuing to the sellers 0.3 million Descartes common shares from treasury. The gross contractual amount of trade receivables acquired was \$6.4 million with a fair value of \$5.2 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was \$1.2 million. The purchase price was finalized in the three month period ended January 31, 2020 with no adjustments.

On May 10, 2019, Descartes acquired all the shares of Core Transport Technologies NZ Limited ("CORE"), an electronic transportation network that provides global air carriers and ground handlers with shipment scanning and tracking solutions. The purchase price for the acquisition was approximately \$21.8 million, net of cash acquired, which was funded from drawing on Descartes' existing credit facility. Additional contingent consideration of up to \$9.0 million in cash is payable if certain revenue performance targets are met by CORE in the two years following the acquisition. The fair value of the contingent consideration was valued at \$1.5 million at the acquisition date. The gross contractual amount of trade receivables acquired was \$0.4 million with a fair value of \$0.4 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was nominal. The purchase price was finalized in the three month period ended April 30, 2020 with no adjustments.

On June 27, 2019, Descartes acquired all the shares of Tegmento AG and Contentis AG (collectively, "STEPcom"), a business-to-business supply chain integration network based in Switzerland. The purchase price for the acquisition was approximately \$18.6 million, net of cash acquired, which was funded from drawing on Descartes' existing credit facility. The gross contractual amount of trade receivables acquired was \$0.9 million with a fair value of \$0.8 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was \$0.1 million. The purchase price was finalized in the three month period ended July 31, 2020 with no adjustments.

On August 20, 2019, Descartes acquired BestTransport.com, Inc. ("BestTransport"), a cloud-based transportation management system provider focused on flatbed-intensive manufacturers and distributors. The purchase price for the acquisition was approximately \$11.7 million, net of cash acquired, which was funded from drawing on Descartes' existing credit facility. The gross contractual amount of trade receivables acquired was \$0.6 million with a fair value of \$0.6 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was nominal. The purchase price was finalized in the three month period ended July 31, 2020 with no adjustments.

The final purchase price allocations for businesses we acquired during 2020 are as follows:

	Visual Compliance	CORE	STEP- com	Best- Transport	Total
Purchase price consideration:					
Cash, less cash acquired related to Visual Compliance (\$170), CORE (\$213), STEPcom (\$2,700) and BestTransport (\$507)	239,863	21,833	18,639	11,718	292,053
Common shares issued	9,045	-	-	-	9,045
Contingent consideration	-	1,450	-	-	1,450
Net working capital adjustments payable / (receivable)	1,147	62	250	-	1,459
	<u>250,055</u>	<u>23,345</u>	<u>18,889</u>	<u>11,718</u>	<u>304,007</u>
Allocated to:					
Current assets, excluding cash acquired	6,403	689	1,470	815	9,377
Property and equipment	30	2,048	257	35	2,370
Deferred income tax asset	30,924	-	-	-	30,924
Right-of-use assets	1,188	68	232	194	1,682
Current liabilities	(840)	(352)	(874)	(284)	(2,350)
Deferred revenue	(10,267)	(278)	(813)	(9)	(11,367)
Lease obligations	(1,188)	(68)	(232)	(194)	(1,682)
Deferred income tax liability	(282)	(3,332)	(2,316)	(1,352)	(7,282)
Net tangible assets (liabilities) assumed	<u>25,968</u>	<u>(1,225)</u>	<u>(2,276)</u>	<u>(795)</u>	<u>21,672</u>
Finite life intangible assets acquired:					
Customer agreements and relationships	32,186	4,600	10,839	3,000	50,625
Existing technology	69,422	6,800	-	3,800	80,022
Trade names	528	200	102	50	880
Non-compete covenants	3,166	300	205	150	3,821
Goodwill	<u>118,785</u>	<u>12,670</u>	<u>10,019</u>	<u>5,513</u>	<u>146,987</u>
	<u>250,055</u>	<u>23,345</u>	<u>18,889</u>	<u>11,718</u>	<u>304,007</u>

The acquired intangible assets are being amortized over their estimated useful lives as follows:

	Visual Compliance	CORE	STEPcom	Best Transport
Customer agreements and relationships	14 years	13 years	9 years	12 years
Existing technology	7 years	6 years	N/A	6 years
Trade names	5 years	8 years	3 years	3 years
Non-compete covenants	5 years	5 years	3 years	2 years

The goodwill on the Visual Compliance, CORE, STEPcom and BestTransport acquisitions arose as a result of the combined strategic value to our growth plan. The goodwill arising from the CORE, STEPcom and BestTransport acquisitions is not deductible for tax purposes. The goodwill from the Visual Compliance acquisition is deductible for tax purposes.

Pro Forma Results of Operations (Unaudited)

The financial information in the table below summarizes selected results of operations on a pro forma basis as if we had acquired GreenMile, Portrix, QuestaWeb, ShipTrack, Kontainers, Peoplevox, BestTransport, STEPcom, CORE and Visual Compliance as of February 1, 2019.

This pro forma information is for information purposes only and does not purport to represent what our actual results of operations for the periods presented would have been had the acquisitions of GreenMile, Portrix, QuestaWeb, ShipTrack, Kontainers, Peoplevox, BestTransport, STEPcom, CORE and Visual Compliance occurred at February 1, 2019, or to project our results of operations for any future period.

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Revenues	429,531	369,271	354,484
Net income	85,549	48,788	30,933
Earnings per share			
Basic	1.01	0.58	0.38
Diluted	0.99	0.57	0.37

Note 4 – Fair Value Measurements

ASC Topic 820 “Fair Value Measurements and Disclosures” (Topic 820) defines fair value as the price that would be received upon sale of an asset or paid upon transfer of a liability in an orderly transaction between market participants at the measurement date and in the principal or most advantageous market for that asset or liability. The fair value, in this context, should be calculated based on assumptions that market participants would use in pricing the asset or liability, not on assumptions specific to the entity. In addition, the fair value of liabilities should include consideration of non-performance risk, including our own credit risk.

Topic 820 establishes a fair value hierarchy which prioritizes the inputs used in the valuation methodologies in measuring fair value into three levels:

- Level 1—inputs are based upon unadjusted quoted prices for identical instruments traded in active markets.
- Level 2—inputs are based upon quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant assumptions are observable in the market or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3—inputs are generally unobservable and typically reflect management’s estimates of assumptions that market participants would use in pricing the asset or liability. The fair values are therefore determined using model-based techniques that include option pricing models, discounted cash flow models, and similar techniques.

The carrying amounts of the Company’s cash, accounts receivable (net), accounts payable, accrued liabilities and income taxes payable approximate their fair value (a Level 2 measurement) due to their short maturities.

The following table shows the Company's financial instruments measured at fair value on a recurring basis as of January 31, 2022:

	Level 1	Level 2	Level 3	Total
Assets:				
Equity derivative contracts	-	10,863	-	10,863
Liabilities:				
Contingent consideration	-	-	12,990	12,990

The following table shows the Company's financial instruments measured at fair value on a recurring basis as of January 31, 2021:

	Level 1	Level 2	Level 3	Total
Assets:				
Equity derivative contracts	-	8,001	-	8,001
Liabilities:				
Contingent consideration	-	-	4,671	4,671

The Company enters into equity derivative contracts including floating-rate equity forwards to partially offset the potential fluctuations of certain future share-based compensation expenses. The equity derivative contracts are not designated as hedge instruments and the Company does not hold derivatives for speculative purposes. As at January 31, 2022, we had equity derivatives for 252,011 Descartes common shares with a weighted average price of \$29.55.

The fair value of equity contract derivatives is determined utilizing a valuation model based on the quoted market value of our common shares at the balance sheet date (Level 2 fair value inputs). The fair value of equity contract derivatives is recorded as other current assets and gains and losses are recorded in general and administrative expenses in the consolidated financial statements. For the years ended January 31, 2022, 2021 and 2020, we recognized an expense (recovery) in general and administrative expenses of (\$2.9) million, (\$3.4) million and (\$4.0) million, respectively.

The following table presents the changes in the fair value measurements in Level 3 of the fair value hierarchy:

	Level 3
Balance at January 31, 2020	1,924
Increase from acquisitions	4,239
Cash payments	(95)
Charges through profit or loss	(1,731)
Effect of movements in foreign exchange	334
Balance at January 31, 2021	4,671
Increase from acquisitions	3,339
Charges through profit or loss	5,070
Effect of movements in foreign exchange	(90)
Balance at January 31, 2022	12,990

Estimates of the fair value of contingent consideration is performed by the Company on a quarterly basis. Key unobservable inputs include revenue growth rates and the discount rates applied (11% to 13%). The estimated fair value increases as the annual revenue growth rate increases and as the discount rate decreases and vice versa.

Note 5 – Trade Accounts Receivable

	January 31, 2022	January 31, 2021
Trade accounts receivable	43,565	39,536
Less: Provision for credit losses	(1,860)	(2,330)
	41,705	37,206

Included in accounts receivable are unbilled receivables in the amount of \$0.5 million as at January 31, 2022 (\$0.3 million as at January 31, 2021). No single customer accounted for more than 10% of the accounts receivable balance as of January 31, 2022 and 2021.

The following table presents the changes in the provision for credit losses as follows:

	Provision for Credit Losses
Balance at January 31, 2020	2,003
Current period provision for expected losses	1,681
Write-offs charged against the provision	(1,418)
Effect of movements in foreign exchange	64
Balance at January 31, 2021	2,330
Current period provision for expected losses	1,007
Write-offs charged against the provision	(1,456)
Effect of movements in foreign exchange	(21)
Balance at January 31, 2022	1,860

Note 6 – Other Receivables

	January 31, 2022	January 31, 2021
Net working capital adjustments receivable from acquisitions	309	237
Other receivables	13,766	14,593
	14,075	14,830

Other receivables include receivables related to sales and use taxes, income taxes, non-trade receivables and contract assets. At January 31, 2022, \$0.3 million (\$0.2 million as at January 31, 2021) of the net working capital adjustments receivable from acquisitions is recoverable from amounts held in escrow related to the respective acquisitions.

Note 7 – Inventory

At January 31, 2022 and January 31, 2021, inventory is entirely comprised of finished goods inventory. Finished goods inventory primarily consists of hardware and related parts for mobile asset units held for sale. For the years ended January 31, 2022, 2021 and 2020, a nominal provision for excess or obsolete inventories has been recorded in cost of revenues.

Note 8 – Property and Equipment

	January 31, 2022	January 31, 2021
Cost		
Computer equipment and software	40,937	37,469
Furniture and fixtures	1,553	1,494
Leasehold improvements	822	807
Equipment installed with customers	1,635	1,654
Assets under construction	524	998
	45,471	42,422
Accumulated depreciation		
Computer equipment and software	31,660	28,123
Furniture and fixtures	1,257	1,081
Leasehold improvements	531	401
Equipment installed with customers	1,206	728
	34,654	30,333
Net	10,817	12,089

Note 9 - Intangible Assets

	January 31, 2022	January 31, 2021
Cost		
Customer agreements and relationships	251,402	240,479
Existing technology	326,411	295,161
Trade names	9,038	8,844
Non-compete covenants	12,306	10,939
	599,157	555,423
Accumulated amortization		
Customer agreements and relationships	135,380	119,361
Existing technology	218,953	183,539
Trade names	6,677	5,996
Non-compete covenants	8,538	6,535
	369,548	315,431
Net	229,609	239,992

Intangible assets related to our acquisitions are recorded at their fair value at the acquisition date. The change in intangible assets during the year ended January 31, 2022 is primarily due to the acquisitions of QuestaWeb, Portrix and GreenMile, partially offset by amortization. The balance of the change in intangible assets is due to foreign currency translation.

Intangible assets with a finite life are amortized into income over their useful lives. Amortization expense for existing intangible assets is expected to be \$229.6 million over the following periods: \$53.4 million for 2023, \$41.2 million for 2024, \$38.4 million for 2025, \$34.1 million for 2026, \$19.3 million for 2027 and \$43.2 million thereafter. Expected future amortization expense is subject to fluctuations in foreign exchange rates and assumes no future adjustments to acquired intangible assets.

Note 10 – Goodwill

Goodwill is recorded when the consideration paid for an acquisition of a business exceeds the fair value of identifiable net tangible and intangible assets acquired. The following table summarizes the changes in goodwill since January 31, 2020:

	January 31, 2022	January 31, 2021
Balance at beginning of period	565,177	523,690
Acquisition of Peoplevox	-	15,182
Acquisition of Kontainers	-	3,461
Acquisition of ShipTrack	-	10,327
Acquisition of QuestaWeb	21,691	-
Acquisition of Portrix	15,032	-
Acquisition of GreenMile	12,968	-
Adjustments on account of foreign exchange	(6,107)	12,517
Balance at end of period	608,761	565,177

Note 11 - Accrued Liabilities

	January 31, 2022	January 31, 2021
Accrued compensation and benefits	32,169	24,643
Accrued professional fees	1,318	1,188
Other accrued liabilities	22,955	13,048
	56,442	38,879

Other accrued liabilities include accrued expenses related to third party resellers and royalties, suppliers, accrued restructuring charges and accrued contingent acquisition purchase consideration.

Note 12 – Long-Term Debt

We have a senior secured revolving credit facility in place with a syndicate of lenders. The facility is a \$350.0 million revolving operating credit facility to be available for general corporate purposes, including the financing of ongoing working capital needs and acquisitions. With the approval of the lenders, the credit facility can be expanded to a total of \$500.0 million. The credit facility has a five-year maturity with no fixed repayment dates prior to the end of the five-year term ending January 2024. Borrowings under the credit facility are secured by a first charge over substantially all of Descartes' assets. Depending on the type of advance, interest rates under the revolving operating portion of the credit facility are based on the Canada or US prime rate, Bankers' Acceptance (BA), US dollar London Interbank Offered Rate (LIBOR) or the Secured Overnight Financing Rate (SOFR) plus an additional 0 to 250 basis points based on the ratio of net debt to adjusted earnings before interest, taxes, depreciation and amortization, as defined in the credit agreement. A standby fee of between 20 to 40 basis points will be charged on all undrawn amounts. The credit facility contains certain customary representations, warranties and guarantees, and covenants.

No amounts were drawn on the credit facility as of January 31, 2022 and the balance of \$350.0 million is available for use. We were in compliance with the covenants of the credit facility as of January 31, 2022.

As at January 31, 2022, we had outstanding letters of credit of approximately \$0.2 million (\$0.2 million as at January 31, 2021), which were not related to our credit facility.

Note 13 – Leases

We have operating leases for buildings, vehicles and computer equipment. Our leases have remaining terms of up to 7 years, some of which include options to extend the leases for up to 5 years.

The components of operating lease expense were as follows:

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Operating lease cost	4,466	4,590	4,902
Short-term lease cost	432	502	866
Total operating lease cost	4,898	5,092	5,768

Supplemental cash flow information related to operating leases was as follows:

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Operating cash outflows from operating leases included in measurement of lease liabilities	4,857	4,831	4,150
New ROU assets obtained in exchange for lease obligations	2,548	2,337	6,439

Supplemental information related to operating leases was as follows:

	January 31, 2022	January 31, 2021
Weighted average remaining lease term (years)	3.3	3.8
Weighted average discount rate (%)	2.1	2.5

Maturities of operating lease liabilities were as follows as of January 31, 2022:

<i>Years Ended January 31,</i>	Operating Leases
2023	4,349
2024	3,526
2025	2,429
2026	1,131
2027	322
2028 and thereafter	186
Total lease payments	11,943
Less: imputed interest	(532)
Total lease obligations	11,411
Current	4,029
Long-term	7,382

Note 14 - Commitments, Contingencies and Guarantees

Commitments

As described in Note 2 to these consolidated financial statements, we maintain deferred share unit ("DSU") and cash-settled restricted share unit ("CRSU") plans for our directors and employees. Any payments made pursuant to these plans are settled in cash. For DSUs and CRSUs, the units vest over time and the liability recognized at any given consolidated balance sheet date reflects only those units vested at that

date that have not yet been settled in cash. As such, we had an unrecognized aggregate liability for the unvested DSUs and CRSUs of nil and \$1.0 million, respectively, at January 31, 2022. The ultimate liability for any payment of DSUs and CRSUs is dependent on the trading price of our common shares. To partially offset our exposure to fluctuations in our stock price, we have entered into equity derivative contracts, including floating-rate equity forwards. As at January 31, 2022, we had equity derivatives for 252,011 Descartes common shares and a DSU liability for 252,011 Descartes common shares, resulting in no net exposure resulting from changes to our share price.

Contingencies

We are subject to a variety of other claims and suits that arise from time to time in the ordinary course of our business. The consequences of these matters are not presently determinable but, in the opinion of management after consulting with legal counsel, the ultimate aggregate potential liability is not currently expected to have a material effect on our results of operations or financial position.

Product Warranties

In the normal course of operations, we provide our customers with product warranties relating to the performance of our hardware, software and services. To date, we have not encountered material costs as a result of such obligations and have not accrued any liabilities related to such obligations in our consolidated financial statements.

Business combination agreements

In respect of our acquisitions of Kontainers, ShipTrack and GreenMile, up to \$35.6 million in cash may become payable if certain revenue performance targets are met in the two years following the acquisition. A balance of \$13.0 million is accrued related to the fair value of this contingent consideration as at January 31, 2022.

Guarantees

In the normal course of business, we enter into a variety of agreements that may contain features that meet the definition of a guarantee under ASC Topic 460, "Guarantees". The following lists our significant guarantees:

Intellectual property indemnification obligations

We provide indemnifications of varying scope to our customers against claims of intellectual property infringement made by third parties arising from the use of our products. In the event of such a claim, we are generally obligated to defend our customers against the claim and we are liable to pay damages and costs assessed against our customers that are payable as part of a final judgment or settlement. These intellectual property infringement indemnification clauses are not generally subject to any dollar limits and remain in force for the term of our license agreement with our customer, which license terms are typically perpetual. Historically, we have not encountered material costs as a result of such indemnification obligations.

Other indemnification agreements

In the normal course of operations, we enter into various agreements that provide general indemnities. These indemnities typically arise in connection with purchases and sales of assets, securities offerings or buy-backs, service contracts, administration of employee benefit plans, retention of officers and directors, membership agreements, customer financing transactions, and leasing transactions. In addition, our corporate by-laws provide for the indemnification of our directors and officers. Each of these indemnities requires us, in certain circumstances, to compensate the counterparties for various costs resulting from breaches of representations or obligations under such arrangements, or as a result of third party claims that may be suffered by the counterparty as a consequence of the transaction. We believe that the likelihood that we could incur significant liability under these obligations is remote. Historically, we have not made any significant payments under such indemnities.

In evaluating estimated losses for the guarantees or indemnities described above, we consider such factors as the degree of probability of an unfavorable outcome and the ability to make a reasonable estimate of the amount of loss. We are unable to make a reasonable estimate of the maximum potential amount

payable under such guarantees or indemnities as many of these arrangements do not specify a maximum potential dollar exposure or time limitation. The amount also depends on the outcome of future events and conditions, which cannot be predicted. Given the foregoing, to date, we have not accrued any liability in our consolidated financial statements for the guarantees or indemnities described above.

Note 15 – Share Capital

On July 16, 2020, we filed a final short-form base shelf prospectus (the “2020 Base Shelf Prospectus”), allowing us to offer and issue the following securities: (i) common shares; (ii) preferred shares; (iii) senior or subordinated unsecured debt securities; (iv) subscription receipts; (v) warrants; and (vi) securities comprised of more than one of the aforementioned common shares, preferred shares, debt securities, subscription receipts and/ or warrants offered together as a unit. These securities may be offered separately or together, in separate series, in amounts, at prices and on terms to be set forth in one or more shelf prospectus supplements. The aggregate initial offering price of securities that may be sold by us (or certain of our current or future shareholders) pursuant to the 2020 Base Shelf Prospectus during the 25-month period that the 2020 Base Shelf Prospectus, including any amendments thereto, remains valid is limited to an aggregate of \$1 billion. No securities have yet been sold pursuant to the 2020 Base Shelf Prospectus.

The following table sets forth the common shares outstanding (number of shares in thousands):

<i>(thousands of shares)</i>	January 31, 2022	January 31, 2021	January 31, 2020
Balance, beginning of year	84,494	84,156	76,865
Shares issued:			
Stock options and share units exercised	262	338	95
Issuance of common shares	-	-	6,900
Acquisitions (Note 3)	-	-	296
Balance, end of year	84,756	84,494	84,156

Cash flows provided from stock options and share units exercised during 2022, 2021 and 2020 were approximately \$2.7 million, \$6.2 million and \$1.5 million, respectively.

Note 16 - Earnings Per Share

The following table sets forth the computation of basic and diluted earnings per share (“EPS”) (number of shares in thousands):

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Net income for purposes of calculating basic and diluted earnings per share	86,282	52,100	36,997
Weighted average shares outstanding	84,591	84,360	81,659
Dilutive effect of employee stock options	482	358	318
Dilutive effect of restricted and performance share units	1,127	1,038	890
Weighted average common and common equivalent shares outstanding	86,200	85,756	82,867
Earnings per share			
Basic	1.02	0.62	0.45
Diluted	1.00	0.61	0.45

For the years ended January 31, 2022, 2021 and 2020, the application of the treasury stock method excluded 267,236, 1,750 and 350,464 stock options, respectively, from the calculation of diluted EPS as the assumed proceeds from the unrecognized stock-based compensation expense of such stock options that are attributed to future service periods made such stock options anti-dilutive.

For the years ended January 31, 2022, 2021 and 2020, 1,000, 71,161 and 5,909 stock options, respectively, were excluded from the calculation of diluted EPS as those options had an exercise price greater than or equal to the average market value of our common shares during the applicable periods and their inclusion would have been anti-dilutive.

Additionally, for the years ended January 31, 2022, 2021 and 2020, the application of the treasury stock method excluded PSUs and RSUs of nil, 43,002 and nil, respectively, from the calculation of diluted EPS as the unrecognized stock-based compensation expense of such PSUs and RSUs that are attributed to future service periods made such PSUs and RSUs anti-dilutive.

Note 17 - Stock-Based Compensation Plans

Total estimated stock-based compensation expense recognized in our consolidated statement of operations was as follows:

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Cost of revenues	732	319	220
Sales and marketing	3,060	896	706
Research and development	1,419	404	281
General and administrative	5,806	4,694	3,702
Effect on net income	11,017	6,313	4,909

Differences between how GAAP and applicable income tax laws treat the amount and timing of recognition of stock-based compensation expense may result in a deferred tax asset. We have recorded a valuation allowance against any such deferred tax asset except for \$0.7 million (\$0.7 million at January 31, 2021) recognized in the United States. The tax benefit realized in connection with stock options exercised during 2022, 2021 and 2020 was \$0.1 million, nominal and \$0.1 million, respectively.

Stock Options

As of January 31, 2022, we had 1,319,279 stock options granted and outstanding under our shareholder-approved stock option plan and 3,041,719 remained available for grant.

As of January 31, 2022, \$6.1 million of total unrecognized compensation costs, net of forfeitures, related to non-vested stock option awards is expected to be recognized over a weighted average period of 2.6 years. The total fair value of stock options vested during 2022 was \$3.4 million.

The total number of options granted during the years ended January 31, 2022, 2021 and 2020 was 271,025, 381,859 and 367,173, respectively. The weighted average grant-date fair value of options granted during the years ended January 31, 2022, 2021 and 2020 was \$16.77, \$10.19 and \$8.99 per option, respectively.

The weighted-average assumptions were as follows:

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Expected dividend yield (%)	-	-	-
Expected volatility (%)	27.8	26.4	23.5
Risk-free rate (%)	0.7	0.7	1.4
Expected option life (years)	5	5	5

A summary of option activity under all of our plans is presented as follows:

	Number of Stock Options Outstanding	Weighted- Average Exercise Price	Weighted- Average Remaining Contractual Life (years)	Aggregate Intrinsic Value (in millions)
Balance at January 31, 2020	1,127,822	\$26.82	4.6	\$20.2
Granted	381,859	\$41.51		
Exercised	(338,342)	\$18.43		
Forfeited	(23,619)	\$33.88		
Balance at January 31, 2021	1,147,720	\$33.77	4.9	\$28.1
Granted	271,025	\$65.03		
Exercised	(90,166)	\$29.38		
Forfeited	(9,300)	\$53.94		
Balance at January 31, 2022	1,319,279	\$42.35	4.4	\$41.5
Vested or expected to vest at January 31, 2022	1,319,279	\$42.35	4.4	\$41.5
Exercisable at January 31, 2022	856,426	\$36.91	3.9	\$31.6

The total intrinsic value of options exercised during the years ended January 31, 2022, 2021 and 2020 was approximately \$3.7 million, \$10.8 million and \$2.0 million, respectively.

Options outstanding and options exercisable as at January 31, 2022 by range of exercise price are as follows:

<i>Range of Exercise Prices</i>	Options Outstanding			Options Exercisable	
	Weighted Average Exercise Price	Number of Stock Options	Weighted Average Remaining Contractual Life (years)	Weighted Average Exercise Price	Number of Stock Options
\$19.78 – \$23.86	\$22.55	176,500	1.9	\$22.55	176,500
\$27.39 – \$29.08	\$29.08	191,754	3.2	\$29.08	176,417
\$40.22 – \$52.38	\$40.69	618,325	4.7	\$40.60	414,713
\$56.63 – \$78.55	\$63.59	332,700	6.1	\$63.79	88,796
	\$42.35	1,319,279	4.4	\$36.91	856,426

A summary of the status of our unvested stock options under our shareholder-approved stock option plan as of January 31, 2022 is presented as follows:

	Number of Stock Options Outstanding	Weighted- Average Grant-Date Fair Value per Share
Balance at January 31, 2020	409,653	\$8.03
Granted	381,859	\$10.19
Vested	(266,238)	\$8.19
Forfeited	(23,619)	\$4.87
Balance at January 31, 2021	501,655	\$9.52
Granted	271,025	\$16.77
Vested	(300,527)	\$11.42
Forfeited	(9,300)	\$13.54
Balance at January 31, 2022	462,853	\$13.16

Performance Share Units

A summary of PSU activity is as follows:

	Number of PSUs Outstanding	Weighted- Average Grant-Date Fair Value	Weighted- Average Remaining Contractual Life (years)	Aggregate Intrinsic Value (in millions)
Balance at January 31, 2020	629,874	\$21.19	5.0	\$28.2
Granted	85,334	\$54.24		
Performance units issued	40,665	\$29.08		
Balance at January 31, 2021	755,873	\$25.17	4.7	\$44.0
Granted	77,441	\$88.11		
Performance units issued	44,296	\$36.63		
Exercised	(100,072)	\$9.66		
Balance at January 31, 2022	777,538	\$35.76	4.8	\$57.4
Vested or expected to vest at January 31, 2022	777,538	\$35.76	4.8	\$57.4
Exercisable at January 31, 2022	561,034	\$23.15	3.6	\$41.4

The aggregate intrinsic values represent the total pre-tax intrinsic value (the aggregate closing share price of our common shares on January 31, 2022) that would have been received by PSU holders if all PSUs had been vested on January 31, 2022.

As of January 31, 2022, \$6.7 million of total unrecognized compensation costs related to non-vested awards is expected to be recognized over a weighted average period of 1.1 years. The total fair value of PSUs vested during 2022 was \$3.6 million.

Restricted Share Units

A summary of RSU activity is as follows:

	Number of RSUs Outstanding	Weighted- Average Granted Date Fair Value	Weighted- Average Remaining Contractual Life (years)	Aggregate Intrinsic Value (in millions)
Balance at January 31, 2020	374,677	\$16.57	5.0	\$16.8
Granted	57,518	\$43.25		
Balance at January 31, 2021	432,195	\$19.98	4.7	\$25.2
Granted	50,099	\$65.33		
Exercised	(71,314)	\$7.14		
Balance at January 31, 2022	410,980	\$29.17	5.0	\$30.3
Vested or expected to vest at January 31, 2022	410,980	\$29.17	5.0	\$30.3
Exercisable at January 31, 2022	355,765	\$24.62	4.4	\$26.3

The aggregate intrinsic values represent the total pre-tax intrinsic value (the aggregate closing share price of our common shares on January 31, 2022) that would have been received by RSU holders if all RSUs had been vested on January 31, 2022.

As of January 31, 2022, \$3.2 million of total unrecognized compensation costs related to non-vested awards is expected to be recognized over a weighted average period of 1.6 years. The total fair value of RSUs vested during 2022 was \$2.6 million.

Deferred Share Unit Plan

As at January 31, 2022, the total number of DSUs held by participating directors was 252,011 (226,525 at January 31, 2021), representing an aggregate accrued liability of \$18.3 million (\$13.8 million at January 31, 2021). During 2022, 25,486 DSUs were granted and nil DSUs were redeemed and settled in cash. As at January 31, 2022, the unrecognized aggregate liability for the unvested DSUs was nil (nil at January 31, 2021). The fair value of the DSU liability is based on the closing price of our common shares at the balance sheet date. The total compensation cost related to DSUs recognized in our consolidated statements of operations was approximately \$4.5 million, \$4.6 million and \$5.0 million for the years ended January 31, 2022, 2021 and 2020, respectively.

Cash-Settled Restricted Share Unit Plan

A summary of activity under our CRSU plan is as follows:

	Number of CRSUs Outstanding	Weighted- Average Remaining Contractual Life (years)
Balance at January 31, 2020	42,727	1.6
Granted	26,629	
Vested and settled in cash	(30,480)	
Forfeited	(248)	
Balance at January 31, 2021	38,628	1.5
Granted	12,776	
Vested and settled in cash	(26,755)	
Forfeited	(221)	
Balance at January 31, 2022	24,428	1.4
Non-vested at January 31, 2022	24,428	1.4

We recognize the compensation cost of the CRSUs ratably over the service/vesting period relating to the grant and have recorded an aggregate accrued liability of \$0.8 million at January 31, 2022 (\$0.9 million at January 31, 2021). As at January 31, 2022, the unrecognized aggregate liability for the unvested CRSUs was \$1.0 million (\$1.5 million at January 31, 2021). The fair value of the CRSU liability is based on the closing price of our common shares at the balance sheet date. The total compensation cost related to CRSUs recognized in our consolidated statements of operations was approximately \$1.3 million, \$1.1 million and \$0.9 million for the years ended January 31, 2022, 2021 and 2020, respectively.

Note 18 - Income Taxes

Income before income taxes is earned in the following tax jurisdictions:

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Canada	36,312	31,307	19,557
United States	32,338	26,072	19,962
Other countries	33,960	12,990	8,516
	102,610	70,369	48,035

Income tax expense is incurred in the following jurisdictions:

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Current income tax expense			
Canada	1,817	1,875	1,020
United States	8,689	(3,050)	3,496
Other countries	4,308	4,921	779
	14,814	3,746	5,295
Deferred income tax expense (recovery)			
Canada	8,381	7,047	5,008
United States	1,941	9,537	1,390
Other countries	(8,808)	(2,061)	(655)
	1,514	14,523	5,743
	16,328	18,269	11,038

Income tax expense for 2022, 2021 and 2020 was 16%, 26% and 23% of income before income taxes, respectively, with current income tax expense being 14%, 5% and 11% of income before income taxes, respectively.

Current income tax expense increased in 2022 compared to 2021 primarily due to a current tax recovery in 2021 related to a voluntary change in accounting for deferred revenue for income tax purposes in the United States elected by the Company.

Current income tax expense decreased in 2021 compared to 2020 primarily due to a voluntary change we elected to adopt in accounting for deferred revenue for income tax purposes in the United States. This change resulted in a decrease of \$9.3 million in current income tax expense in 2021 and a corresponding increase in the deferred income tax expense for the same period. This decrease was partially offset by an increase in income before tax in other jurisdictions as a result of growth in the business.

Deferred income tax expense decreased in 2022 compared to 2021 primarily due to additional deferred tax expense in 2021 related to a voluntary change in accounting for deferred revenue for income tax purposes in the United States elected by the Company as well as a release in valuation allowances recorded in 2022 related to tax losses in EMEA carried forward from previous periods.

Deferred income tax expense increased in 2021 compared to 2020 primarily due to a voluntary change we elected to adopt in accounting for deferred revenue for income tax purposes in the United States. This increase was partially offset by a release in valuation allowance for other jurisdictions.

The components of the deferred income tax assets and liabilities are as follows:

	January 31, 2022	January 31, 2021
Assets		
Accrued liabilities not currently deductible	5,408	4,471
Accumulated net operating losses	10,594	12,866
Corporate minimum taxes	2,346	1,596
Difference between tax and accounting basis of property and equipment	12,021	23,754
Research and development and other tax credits and expenses	1,172	1,649
Total deferred income tax assets	31,541	44,336
Liabilities		
Difference between tax and accounting basis of intangible assets	(47,255)	(45,030)
Difference between tax and accounting basis of property and equipment	-	-
Other temporary differences	(2,886)	(2,109)
Total deferred income tax liabilities	(50,141)	(47,139)
Net deferred income taxes	(18,600)	(2,803)
Valuation allowance	(1,961)	(11,365)
Net deferred income taxes, net of valuation allowance	(20,561)	(14,168)

As at January 31, 2022, we have not accrued for foreign withholding taxes and Canadian income taxes applicable to approximately \$573.0 million of unremitted earnings of subsidiaries operating outside of Canada. These earnings, which we consider to be invested indefinitely, will become subject to these taxes if and when they are remitted as dividends or if we sell our stock in the subsidiaries. If we decide to repatriate the foreign earnings, we would need to adjust our income tax provision in the period we determined that the earnings will no longer be indefinitely invested outside Canada.

The provision (recovery) for income taxes varies from the expected provision at the statutory rates for the reasons detailed in the table below:

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Income before income taxes	102,610	70,369	48,033
Combined basic Canadian statutory rates	26.5%	26.5%	26.5%
Income tax expense based on the above rates	27,192	18,648	12,729
Increase (decrease) in income taxes resulting from:			
Permanent differences	3,467	875	(673)
Effect of differences between Canadian and foreign tax rates	(1,855)	(600)	(274)
Effect of rate changes on current year timing differences	(1,085)	(1,063)	(609)
Adjustments relating to previous periods	(569)	(1,034)	94
Increase (decrease) in accruals for uncertain tax positions	(849)	1,289	(1,042)
Valuation allowance	(9,102)	254	692
Stock based compensation	-	100	352
Other, including foreign exchange	(871)	(200)	(231)
Income tax expense	16,328	18,269	11,038

We have income tax loss carry forwards which expire as follows:

<i>Expiry year</i>	Canada	United States	EMEA	Asia Pacific	Total
2023	-	-	-	49	49
2024	-	-	-	186	186
2025	-	-	40	67	107
2026	-	-	-	-	-
2027	-	417	-	352	769
Thereafter	8,022	1,473	33,054	1,553	44,102
	8,022	1,890	33,094	2,207	45,213

The following is a tabular reconciliation of the total estimated liability associated with uncertain tax positions taken:

	January 31, 2022	January 31, 2021
Liability, beginning of year	8,393	6,650
Gross increases – current period	333	2,502
Lapsing due to statutes of limitations	(1,372)	(759)
Liability, end of year	7,354	8,393

We have identified accruals of \$7.4 million with respect to uncertain tax positions as at January 31, 2022. It is possible that these accruals for uncertain tax positions will not be required in which case up to \$7.4 million of the recorded liability will decrease the effective tax rate in future years if this liability is reversed. We believe that it is reasonably possible that \$2.1 million of the uncertain tax positions could decrease tax expense in the next 12 months relating primarily to tax years becoming statute barred for purposes of future tax examinations by local taxing jurisdictions.

We recognize accrued interest and penalties related to uncertain tax positions as a current tax expense. As at January 31, 2022 and January 31, 2021, the unrecognized tax positions have resulted in no material liability for estimated interest and penalties.

Descartes and our subsidiaries file their tax returns as prescribed by the tax laws of the jurisdictions within which they operate. We are no longer subject to income tax examinations by tax authorities in our major tax jurisdictions as follows:

	Years No Longer Subject to Audit
Tax Jurisdiction	
United States Federal	2019 and prior
Canada	2017 and prior
United Kingdom	2019 and prior
Sweden	2015 and prior
Norway	2020 and prior
Netherlands	2014 and prior
Belgium	2018 and prior
Germany	2017 and prior
Switzerland	2016 and prior
Brazil	2016 and prior

Note 19 – Contract Balances, Performance Obligations and Contract Costs

Deferred Revenue

The following table presents the changes in the deferred revenue balance as follows:

	Deferred Revenue
Balance at January 31, 2020	42,063
Recognition of previously deferred revenue	(37,843)
Deferral of revenue	46,386
Increases from business combinations, net	39
Effect of movements in foreign exchange	646
Balance at January 31, 2021	51,291
Recognition of previously deferred revenue	(38,065)
Deferral of revenue	45,234
Increases from business combinations, net	729
Effect of movements in foreign exchange	(489)
Balance at January 31, 2022	58,700
Current	56,780
Long-term	1,920

Performance Obligations

As of January 31, 2022, approximately \$366.8 million of revenue is expected to be recognized in the future related to performance obligations that are unsatisfied (or partially unsatisfied) at the end of the reporting period. We expect to recognize revenue on approximately 80% of these remaining performance obligations over the next 24 months with the balance recognized thereafter.

Contract Assets

The following table presents the changes in the contract assets balance as follows:

	Contract Assets
Balance at January 31, 2020	1,107
Transfers to trade receivables from contract assets	(563)
Increases as a result of delivered term licenses recognized as revenue during the period, net of amounts transferred to trade receivables	783
Effect of movements in foreign exchange	26
Balance at January 31, 2021	1,353
Transfers to trade receivables from contract assets	(730)
Increases as a result of delivered term licenses recognized as revenue during the period, net of amounts transferred to trade receivables	815
Effect of movements in foreign exchange	5
Balance at January 31, 2022	1,443

Contract Costs

Capitalized contract costs net of accumulated amortization is \$16.6 million at January 31, 2022 (\$12.9 million at January 31, 2021). Capitalized contract costs are amortized consistent with the pattern of transfer to the customer for the goods and services to which the asset relates. The total contract cost amortization included in sales and marketing expenses was approximately \$4.7 million, \$3.3 million and \$2.5 million for the years ended January 31, 2022, 2021 and 2020, respectively.

Note 20 - Other Charges

Other charges are comprised of acquisition-related costs, contingent consideration adjustments and restructuring initiatives which have been undertaken from time to time under various restructuring plans. Acquisition-related costs primarily include advisory services, administrative costs and retention bonuses to employees joining by way of an acquisition, and collectively relate to completed and prospective acquisitions.

The following tables shows the components of other charges as follows:

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Acquisition-related costs	1,904	1,981	3,457
Contingent consideration adjustments	4,458	(1,946)	340
Restructuring plans	66	2,300	-
	6,428	2,335	3,797

Fiscal 2021 Restructuring Plan

In the second quarter of fiscal 2021, management approved and began to implement a restructuring plan (the "Fiscal 2021 Restructuring Plan") to reduce operating expenses. To date, \$2.4 million has been recorded within other charges in conjunction with this restructuring plan. These charges are comprised of workforce reduction and the accelerated ROU asset amortization associated with certain office closures. This plan is substantially complete with a nominal amount of future expected office closure costs.

The following table shows the changes in the restructuring provision for the Fiscal 2021 Restructuring Plan:

	Workforce Reduction	Office Closures	Total
Balance at January 31, 2020	-	-	-
Accruals and adjustments	1,717	583	2,300
Cash draw downs	(1,657)	(583)	(2,240)
Foreign exchange	10	-	10
Balance at January 31, 2021	70	-	70
Accruals and adjustments	2	64	66
Cash draw downs	(72)	(64)	(136)
Balance at January 31, 2022	-	-	-

Note 21 – Supplemental Cash Flow Information

The following tables presents the cash flow changes in operating asset and liabilities:

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Trade accounts receivable	(2,884)	143	3,733
Other accounts receivable	2,042	(7,098)	(2,547)
Prepaid expenses and other	(8,276)	(5,029)	(5,942)
Inventory	(498)	99	(345)
Accounts payable	2,336	(686)	1,768
Accrued liabilities	13,760	(999)	3,265
Income taxes payable	426	3,835	(1,550)
Operating leases	(259)	283	546
Deferred revenue	6,142	5,877	(4,184)
	12,789	(3,575)	(5,256)

Note 22 - Segmented Information

We review our operating results, assess our performance, make decisions about resources, and generate discrete financial information at the single enterprise level. Accordingly, we have determined that we operate in one reportable business segment providing logistics technology solutions. The following tables provide our disaggregated revenue information by geographic location of customer and revenue type:

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Revenues			
United States	242,086	211,232	202,814
Europe, Middle-East and Africa	128,990	94,163	82,596
Canada	36,116	29,388	27,304
Asia Pacific	17,498	13,881	13,077
	424,690	348,664	325,791

<i>Year Ended</i>	January 31, 2022	January 31, 2021	January 31, 2020
Revenues			
License	5,060	5,054	7,582
Services	378,494	309,731	284,654
Professional services and other	41,136	33,879	33,555
	424,690	348,664	325,791

License revenues are derived from perpetual licenses granted to our customers to use our software products. Services revenues are comprised of ongoing transactional and/or subscription fees for use of our services and products by our customers and maintenance, which include revenues associated with maintenance and support of our services and products. Professional services and other revenues are comprised of professional services revenues from consulting, implementation and training services related to our services and products, hardware revenues and other revenues.

The following table provides information by geographic area of operation for our long-lived assets. Long-lived assets represent property and equipment and intangible assets that are attributed to geographic areas.

	January 31, 2022	January 31, 2021
Total long-lived assets		
United States	102,649	92,442
Europe, Middle-East and Africa	43,922	39,769
Canada	84,943	107,472
Asia Pacific	8,912	12,398
	240,426	252,081

Note 23 – Subsequent Event

On February 9, 2022, Descartes acquired all of the shares of NetCHB, LLC, a provider of customs filing solutions in the US. The purchase price for the acquisition was approximately \$38.7 million, net of cash acquired, which was funded from cash on hand plus potential performance-based consideration of up to \$60.0 million based on NetCHB achieving revenue-based targets over the first two years post-acquisition. As of the issue date of these consolidated financial statements, the fair value of the acquired assets and liabilities has not been determined.

CORPORATE INFORMATION

Stock Exchange Information

Our common stock trades on the Toronto Stock Exchange under the symbol DSG and on The Nasdaq Stock Market under the symbol DSGX.

Transfer Agents

Computershare Investor Services Inc.
100 University Avenue
Toronto, Ontario M5J 2Y1
North America: (800) 663-9097
Phone: (416) 263-9200

Computershare Trust Company
12039 West Alameda Parkway
Suite Z-2 Lakewood, Colorado
80228 USA
Phone: (303) 262-0600

Independent Registered Public Accounting Firm

KPMG LLP
Bay Adelaide Centre
333 Bay Street
Suite 4600
Toronto, Ontario M5H 2S5
Phone: (416) 777-8500

Investor Inquiries

Investor Relations
The Descartes Systems Group Inc.
120 Randall Drive
Waterloo, Ontario N2V 1C6
Phone: (519) 746-8110 ext. 202358
Toll Free: (800) 419-8495
E-mail: investor@descartes.com
www.descartes.com

The Descartes Systems Group Inc.

Corporate Headquarters
120 Randall Drive
Waterloo, Ontario N2V 1C6
Canada
Phone: (519) 746-8110
(800) 419-8495
Fax: (519) 747-0082

info@descartes.com
www.descartes.com

DESCARTES™