DIRTT

DIRTT 2021 Annual Report

March 31, 2022

dirtt.com

Letter to Shareholders

Dear fellow shareholder,

After two years of public health driven challenges organizations are looking to respond to an exciting new environment. This is less about "returning" to anything, and more about a new future where flexibility and adaptability are key. If anything, the pandemic accelerated changes that were already underway with how and where people worked, learned, and spent their time. Many organizations are continuing down the path of hybrid and flexible settings, and many more are joining them. Layer on top of that a change in how people want to access healthcare, banking, and other critical services, and it suggests the world we are going into will look very different from the one we left behind in March 2020.

DIRTT is built to excel in this new world. As a society, we have proven over the last two years that we are more adaptable than many had thought. As we enter this new phase, many do not want to lose that element of flexibility. Many organizations are focusing on personalization, flexibility, and adaptability, and the design community is being called on to create and adapt space at an unprecedented rate. Designers, architects, and contractors are rethinking how space is built to make it a more inclusive experience, and we help them do that.

The fundamental shifts taking place in the market are only partly attributable to COVID. The competition for talent, better technology, greater worker mobility and transiency has forced a major rethink of workplace strategy, design, and management. How and where people expect to obtain services has also shifted. There is ongoing change in banking as financial institutions are finding the need to downsize larger branches, build smaller ones and make better use of the space they currently own. In healthcare, we are seeing a continued shift from in-patient care to outpatient, or ambulatory, care offered in community settings. There is a growing recognition of the importance of the built environment in educational settings, and colleges, universities and schools are responding with creative new builds. Sustainable and resilient spaces are high on the priority list for new government builds.

To successfully target this rapidly changing market, we first needed to change our own business, so that we could be a more strategic, more mature and ultimately, more profitable company. That work began in earnest in early 2022, when the board of directors determined the company needed new leadership to drive the required change. I assumed the role of interim Chief Executive Officer and we launched a global search for a permanent company lead. We then got to work on a host of initiatives to change the trajectory of DIRTT so that we were better – and more efficient – at what we do.

We created a product development filter that will drive a greater focus on our custom construction solutions, offering clients greater certainty in cost, schedule, and outcomes, while delivering higher margin sales for us. We are also exploring some important changes to our proprietary ICE® software so that clients can better envision and design their spaces with more products and greater ease of use.

We are adapting our manufacturing footprint to ensure we have robust capabilities to continue to serve partners and customers across North America. We will expand aluminum manufacturing in Calgary, AB and Savanah, GA, add Thermofoil and back-painted glass production in Rock Hill, SC, and close our facility in Phoenix, AZ. These moves will reduce shipping time and costs for Thermofoil panels to customers in the Midwest and eastern regions of North America, while reducing our fixed costs.

Our partners are critical to our success and to better tap their market knowledge and expertise, we established a Partner Advisory Council. This will be a forum for our team to work in close collaboration with an elite group of our partners to better pursue opportunities. We also joined the American Institute of Architects as a Cornerstone Partner to grow awareness about how architects can harness the infinite design freedom provided by industrialized construction.

We made several changes to how the business is run, how work gets done and how we price our products and services to improve efficiencies and prioritize the important things we want to continue doing. It was a complex exercise to balance a need for a leaner operation that can respond to an expanding number of opportunities. We believe we found that balance and while the efficiencies are expected to reduce our fixed expenses by 14% on an annualized basis, the closer working relationship with our partners and others in the design and construction space, coupled with our manufacturing capacity, can make us more responsive to the new market dynamics at play.

While these important structural changes were being made, we never lost sight of the important work we do with our design and construction partners. Over the last year, we launched a new state-of-the-art flagship DIRTT Experience Center (DXC) in Dallas, showcasing a wide range of resilient solutions that foster greater collaboration between people and teams while seamlessly integrating technology, and serving as home to our US headquarters. We also refreshed our Chicago DXC and announced our plans to update our Calgary DXC, which continues to be our Canadian headquarters.

Our work with industry thought leaders continues in several forums. We developed a leading editorial platform called make.space (https://make.space/), providing monthly perspectives and the latest insights on design and construction. We continue to publish our annual Iconoclast magazine, featuring leading figures in architecture, real estate, construction, industrial design, and organizational strategy. We sponsored ThinkLab's Design Hackathon on product specification in a hybrid world, a six-month cross-functional generative research, survey data from over 1,200 design leaders.

And we're not done.

In 2022 we intend to rebrand and reposition the company to better address expanding customer needs, new market drivers and shifting industry landscapes. Our evolved positioning clarifies and reinforces the value DIRTT's construction system offers as organizations look to adapt to new markets and target new audiences.

DIRTT is on the path to profitability, rapidly becoming deeper engaged with our strategic accounts, and ready to respond to a changing world. We are excited about our future and see considerable opportunity ahead.

I would like to thank our entire DIRTT team for their continued efforts, our board of directors for their leadership, our partners for stepping up to the new challenges we collectively face, and you, our shareholders, who continue to share in DIRTT's vision.

Sincerely,

Todd W. Lillibridge
Interim President and Chief Executive Officer

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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2021

OR

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

For the transition period from to

Commission File Number 001-39061

DIRTT ENVIRONMENTAL SOLUTIONS LTD.
(Exact name of Registrant as specified in its Charter)

Alberta, Canada **(State or other jurisdiction of incorporation or organization)**	**N/A** **(IRS Employer Identification No.)**
7303 30th Street S.E. **Calgary, Alberta, Canada** **(Address of principal executive offices)**	**T2C 1N6** **(Zip code)**

Registrant's telephone number, including area code: (403) 723-5000

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

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Shares, without par value	DRTT	The Nasdaq Stock Market LLC

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

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

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

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

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant, based on the closing price of the shares of common shares on The Nasdaq Stock Market on June 30, 2021, was $364,706,983.

The registrant had 85,351,261 common shares outstanding as of February 23, 2022.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement relating to the Annual and Special Meeting of Shareholders, scheduled to be held on April 26, 2022, are incorporated by reference into Part III of this Annual Report on Form 10-K.

TABLE OF CONTENTS

		Page
PART I		
Item 1.	Business	6
Item 1A.	Risk Factors	15
Item 1B.	Unresolved Staff Comments	23
Item 2.	Properties	23
Item 3.	Legal Proceedings	23
Item 4.	Mine Safety Disclosures	24
PART II		
Item 5.	Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	24
Item 6.	[Reserved]	25
Item 7.	Management’s Discussion and Analysis of Financial Condition and Results of Operations	26
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	42
Item 8.	Financial Statements and Supplementary Data	43
Item 9.	Changes in and Disagreements With Accountants on Accounting and Financial Disclosure	71
Item 9A.	Controls and Procedures	71
Item 9B.	Other Information	71
Item 9C.	Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	71
PART III		
Item 10.	Directors, Executive Officers and Corporate Governance	72
Item 11.	Executive Compensation	72
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	72
Item 13.	Certain Relationships and Related Transactions, and Director Independence	72
Item 14.	Principal Accounting Fees and Services	72
PART IV		
Item 15.	Exhibits, Financial Statement Schedules	73
Item 16.	Form 10-K Summary	76

EXPLANATORY NOTE

Currency and Exchange Rate Information

Unless otherwise indicated, references in this Annual Report on Form 10-K (the "Annual Report") to "$" or "dollars" are expressed in U.S. dollars (US$). References in this Annual Report to Canadian dollars are noted as "C$."

Our consolidated financial statements that are included in this Annual Report are presented in U.S. dollars. Unless otherwise stated, all figures presented in Canadian dollars and translated into U.S. dollars were calculated using the daily average exchange rate as reported by the H.10 statistical release of the Board of Governors of the Federal Reserve System on January 28, 2022 of C$1.2753 = US$1.00.

Market and Industry Data

Certain market and industry data contained in this Annual Report, including Item 1. "Business" and Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations," are based upon information from government or other third-party publications, reports and websites or based on estimates derived from such publications, reports and websites. Government and other third-party publications, reports and websites do not guarantee the accuracy or completeness of their information. While management believes this data to be reliable, market and industry data are subject to variations and cannot be verified with complete certainty due to limits on the availability and reliability of raw data, the voluntary nature of the data-gathering process, and other limitations and uncertainties inherent in any statistical survey.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements contained in this Annual Report are "forward-looking statements" within the meaning of "safe harbor" provisions of the United States Private Securities Litigation Reform Act of 1995 and Section 21E of the Securities Exchange Act of 1934 (the "Exchange Act") and "forward-looking information" within the meaning of applicable Canadian securities laws. All statements, other than statements of historical fact included in this Annual Report, regarding without limitation our strategy, future operations, financial position, estimated revenues and losses, projected costs, prospects, plans and objectives of management are forward-looking statements. When used in this Annual Report, the words "anticipate," "believe," "expect," "estimate," "intend," "plan," "project," "outlook," "may," "will," "should," "would," "could," "can," the negatives thereof, variations thereon and other similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain such identifying words. In particular and without limitation, this Annual Report contains forward-looking information pertaining to the effect of our strategic priorities on increasing value creation; the application of our processes and technology and the benefits therefrom, forecast operating and financial results, including 2022 revenue and the impact of certain cost-saving measures, the competitiveness of the Company's solutions, the liquidity and capital resources of the Company, current claims against the Company and expiring patents will have on the Company's business, financial condition, results of operations and growth prospects; our executive management team and the effect the rating systems established by the U.S. Green Building Council will have on demand for products, systems and services in the U.S. market. Forward-looking statements are based on certain estimates, beliefs, expectations and assumptions made in light of management's experience and perception of historical trends, current conditions and expected future developments, as well as other factors that may be appropriate.

Forward-looking statements necessarily involve unknown risks and uncertainties, which could cause actual results or outcomes to differ materially from those expressed or implied in such statements. Due to the risks, uncertainties and assumptions inherent in forward-looking information, you should not place undue reliance on forward-looking statements. Factors that could have a material adverse effect on our business, financial condition, results of operations and growth prospects include, but are not limited to, the severity and duration of the coronavirus ("COVID-19") pandemic and related economic repercussions and other risks described in Item 1A. "Risk Factors," Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations," and elsewhere in this Annual Report. These factors include, but are not limited to, the following:

- the impact of the COVID-19 pandemic and any strain variants or resurgences thereof on our business;
- our ability to implement our strategic plan;
- our ability to maintain and manage growth effectively;
- competition in the interior construction industry;
- competitive behaviors by our co-founders and former executives;
- the condition and changing trends of the overall construction industry;
- our reliance on our network of Distribution Partners (as defined herein) for sales, marketing and installation of our solutions;
- our ability to introduce new designs, solutions and technology and gain client and market acceptance;
- defects in our designing and manufacturing software and warranty and product liability claims brought against us;
- material fluctuations of commodity prices, including raw materials;
- shortages of supplies of certain key components and materials or disruption in supplies due to global events, including the COVID-19 pandemic;
- global economic, political and social conditions and financial markets;
- our exposure to currency exchange rates, tax rates and other fluctuations, including those resulting from changes in laws or administrative practice;
- legal and regulatory proceedings brought against us;
- infringement on our patents and other intellectual property;
- cyber-attacks and other security breaches of our information and technology systems;
- damage to our information technology and software systems;
- our requirements to comply with applicable environmental, health and safety laws, including those relating to the COVID-19 pandemic;

- the impact of border crossing blockades on our ability to deliver our solutions on anticipated time frames and impacts on transportation costs;
- our ability to generate sufficient revenue to achieve and sustain profitability;
- our periodic fluctuations in results of operations and financial conditions;
- volatility of our share price;
- the effect of being governed by the corporate laws of Alberta, Canada, including obstacles to investors seeking to acquire control of our company;
- the effect of being governed by the corporate laws of a foreign country, including the difficulty of enforcing civil liabilities against directors and officers residing in a foreign country;
- turnover of our key executives, recruitment efforts to find a permanent chief executive officer, and difficulties in recruiting or retaining key employees;
- the impact of the shareholder meeting requisition notice delivered by 22NW Fund and the results thereof;
- the availability of capital or financing on acceptable terms, which may impact our liquidity and impair our ability to make investments in the business;
- the availability and treatment of government subsidies (including any current or future requirements to repay or return such subsidies);
- future mergers, acquisitions, agreements, consolidations or other corporate transactions we may engage in; and
- other factors and risks described under the heading “Risk Factors” in Item 1A. of this Annual Report.

These risks are not exhaustive. Because of these risks and other risks and uncertainties, our actual results, performance or achievement, or industry results, may be materially different from the anticipated or estimated results discussed in the forward-looking statements in this Annual Report. New risk factors emerge from time to time, and it is not possible for our management to predict all risk factors nor can we assess the effects of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in, or implied by, any forward-looking statements. Our past results of operations are not necessarily indicative of our future results. You should not place undue reliance on any forward-looking statements, which represent our beliefs, assumptions and estimates only as of the dates on which they were made, as predictions of future events. We undertake no obligation to update these forward-looking statements, even though circumstances may change in the future, except as required under applicable securities laws. We qualify all of our forward-looking statements by these cautionary statements.

PART I

Item 1. Business.

Overview

DIRTT Environmental Solutions Ltd. is an innovative manufacturing company featuring proprietary software and virtual reality visualization platform, coupled with vertically integrated manufacturing that designs, configures and manufactures prefabricated interior solutions used primarily in commercial spaces across a wide range of industries and businesses. We combine innovative product design with our industry-leading, proprietary ICE® Software ("ICE" or "ICE Software"), and technology-driven, lean manufacturing practices and sustainable materials to provide end-to-end solutions for the traditionally inefficient and fragmented interior construction industry. We create customized interiors with aesthetics of conventional construction but with greater schedule and cost certainty, shorter lead times, greater future flexibility, and better environmental sustainability than conventional construction.

Our ICE Software allows us to sell, design, visualize (including 3D virtual reality modeling of interiors), configure, price, communicate, engineer, specify, order and manage projects, thereby reducing challenges associated with traditional construction, including cost overruns, change orders, inconsistent quality, delays and material waste. While other software programs and virtual reality tools are used in the architectural and construction industries, our ICE Software provides end-to-end integration, from design through order engineering, manufacturing and installation. Our interior construction solutions include prefabricated, customized interior modular walls, ceilings, and floors; decorative and functional millwork; power infrastructure; network infrastructure; and pre-installed medical gas piping systems. We strive to incorporate environmentally sustainable materials and reusable components into our solutions while creating flexible, functional and well-designed environments for the people who will use them.

We offer our interior construction solutions throughout the United States and Canada through a network of independent distribution partners ("Distribution Partners") and an internal sales team. Our Distribution Partners use ICE to work with stakeholders, including end users, to envision and design their spaces, and orders are electronically routed through ICE to our manufacturing facilities for production, packing and shipping. Our Distribution Partners then coordinate the receipt and installations of our interior solutions at the end users' locations.

Our name "*DIRTT*" stands for *Doing It Right This Time*. DIRTT was incorporated in Alberta, Canada, under the Business Corporations Act (Alberta) ("ABCA") on March 4, 2003. Our headquarters are located at 7303 30th Street S.E., Calgary, Alberta, T2C 1N6, Canada, and our telephone number at that address is (403) 723-5000. Our manufacturing facilities are in Calgary, Alberta; Rock Hill, South Carolina; and Savannah, Georgia.

We completed our initial public offering in Canada in November 2013 and listed our common shares on The Nasdaq Global Select Market ("Nasdaq") in October 2019. Our common shares trade on the Toronto Stock Exchange ("TSX") under the ticker symbol "DRT" and on Nasdaq under the ticker symbol "DRTT."

Unless otherwise specified or the context otherwise requires, references to "we," "us," "our," "its," "the Company" or "DIRTT" mean DIRTT Environmental Solutions Ltd. and, where the context so requires, includes our subsidiaries.

Available Information

We file or furnish annual, quarterly and current reports, proxy statements and other documents with the U.S. Securities and Exchange Commission ("SEC") under the Exchange Act. The SEC maintains a website (*www.sec.gov*) that contains reports, proxy and information statements, and other information regarding issuers, including DIRTT, that file electronically with the SEC. We are also subject to requirements of applicable securities laws in Canada, and documents that we file with the securities commissions or similar regulatory authorities in Canada may be found at *www.sedar.com*.

We make available free of charge through our website (*www.dirtt.com*) our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and, if applicable, amendments to those reports filed or furnished pursuant to Section 13(a) of the Exchange Act as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC or the securities commissions or similar regulatory authorities in Canada. In addition to the reports filed or furnished with the SEC and the securities commissions or similar regulatory authorities in Canada, we publicly disclose information from time to time in our press releases, investor presentations posted on our website and at publicly accessible conferences. Such information, including information posted on or connected to our website, is not a part of, or incorporated by reference in, this Annual Report or any other document we file with or furnish to the SEC or the securities commissions or similar regulatory authorities in Canada.

We will provide without charge to you, upon your request, a copy of our annual report on Form 10-K for the year ended December 31, 2021 filed with the SEC and the applicable securities commissions or similar regulatory authorities in Canada. Requests for copies should be addressed to 7303 30th Street S.E., Calgary, Alberta, T2C 1N6, Canada, Attention: Investor Relations.

Our Solutions

We offer a wide array of interior construction solutions powered by technology that address the challenges inherent in traditional interior designing and construction methods. Unlike traditional interior construction, including traditional prefabricated products, our solutions do not have predetermined shapes, sizes or configurations, so clients are free to design any shape, size or configuration that is necessary to meet their needs. Our design and visualization technologies integrate with our manufacturing capabilities and enable short and precise manufacturing times. With a strong network of Distribution Partners, we are able to complete an interior construction project in as few as 30 days, from visualization and completion of design to installation and move-in. Because our solutions remain highly adaptable over time, clients are able to change and customize our solutions even after installation to maintain satisfaction with the functionality and aesthetics of their space as their needs change.

Sustainability practices are a core part of our business, from design and manufacturing to installation and beyond. Our solutions are form-fit, so the only waste produced at job sites is packing material, which is biodegradable, recyclable or able to be returned to DIRTT for reuse.

DIRTT Solutions

Our solutions typically are able to address over 90% of an interior space. Walls, doors, cabinetry, access floor, ceilings, power solutions, data networks, timber and medical gas components are all fabricated in our manufacturing facilities and shipped to the site for final assembly and installation. The following table provides a brief description of our primary solutions (together with related complementary offerings, “DIRTT Solutions”):

DIRTT Solution	Description
DIRTT Walls	Prefabricated, customized, modular solid or glass interior wall solutions that support new and legacy furniture, that include glass walls, doors or windows, and that support integrated technology for commercial, healthcare, education, hospitality and other industries and medical gas piping systems for healthcare.
DIRTT Millwork	Fully customized modular cabinetry that may be used in a variety of industries, including commercial, healthcare, education and hospitality.
DIRTT Floors	Low-profile floors that allow quick access to modular power and network infrastructure, facilitating future adaptation and reconfiguration in both existing facilities and new buildings.
DIRTT Ceilings	Prefabricated custom ceilings that increase sound privacy and reduce noise. In 2021 we discontinued manufacturing ceilings and entered into a referral agreement with a major ceiling manufacturer.
DIRTT Power	Quick-connect, pre-tested adaptable power solutions that are prefabricated to arrive on-site in correct lengths with factory components ready for installation and use, eliminating waste and providing future flexibility.
DIRTT Networks	Prefabricated pre-tested and componentized passive optical networks utilizing single mode fiber cables instead of traditional copper cables. Similar to DIRTT Power, data infrastructure components arrive on the job site pre-cut to correct lengths and with components ready for quick-connect installation and use.
DIRTT Timber	Prefabricated timber construction for interior mezzanines, structural elements for low-rise buildings, and other architectural elements, including completely customized cross-laminated timber and glue-laminated (glulam) timber.

Our DIRTT Power and DIRTT Networks solutions may be integrated with DIRTT Walls, and DIRTT Networks solutions may also be integrated with DIRTT Floors and DIRTT Ceilings. DIRTT Millwork solutions may be added to DIRTT Walls for decorative and functional purposes. Additionally, DIRTT Walls, DIRTT Floors, DIRTT Ceilings and DIRTT Timber may be integrated among each solution.

ICE® Software

Our manufacturing is built on a foundation of technology, the core of which is our proprietary ICE Software. We use ICE to sell, design, visualize, configure, price, communicate, engineer, construct, specify and order projects. ICE enables us to efficiently manufacture fully custom interiors while addressing challenges associated with traditional construction, including cost overruns, inconsistent quality, delays and significant material waste. ICE also gives our clients control over the look, cost and timing of their interior construction projects.

Clients typically engage an architect or designer and initially design their interior including space planning, materials, colors, finishes, which are then often presented in two-dimensional renderings or a building information model (“BIM”). A Distribution Partner imports this design into ICE and prices projects in real time. Clients can make changes after the design is imported into ICE, which will immediately be reflected in the price quote. Throughout these iterations, clients can explore and walk through their proposed space in immersive and interactive 3D virtual reality, on-screen computer renderings, and floorplan details so they can more readily understand the design. Throughout every stage of the process design changes can be made easily and in real time. We believe this is a significantly enhanced experience for our clients as compared with the experience of reviewing a two-dimensional blueprint or CAD drawing or user expertise intensive BIM file. In addition to the ICE tools that enable these experiences at each of our Distribution Partners, we currently have four specialized virtual reality walk-through centers, including one at our corporate headquarters, that allow clients to use virtual reality headsets to physically walk through a 3D virtual reality model of their design. Further, ICE’s virtual and augmented reality technology, including applications for phones, tablets and PCs, also allows project stakeholders in different physical locations to meet in real time to visualize, move about, interact with, discuss and edit their future spaces from any location. ICE also provides the ability to export a BIM file for use in design reviews of an entire project consisting of non-DIRTT construction elements coming from many different types of software.

Once the client is satisfied with the design in ICE, the specifications are transmitted to our manufacturing facilities, where the physical product solutions are created to the exact design standards and specifications set forth in the design. ICE’s detailed bill of material data output is key to managing the many aspects of the manufacturing process, including product inventory and cataloguing, price quotation, order submission, parts manufacturing, and production management, thereby facilitating the delivery of custom solutions with shorter production times. We allocate production among our manufacturing facilities based on proximity to the job site and available capacity. ICE’s information allows a project to be tracked in detail across the entire life of the project, from sales, production, delivery, and installation. The ICE file (containing a project’s bill of material and manufacturing data) generated during the design and specification process is preserved and can be used for optimizing future reconfigurations, renovations, technology integration initiatives and changes to a client’s space at lower cost than traditional construction methods.

Our Business Strategy

Our goal is to help clients envision and design interior construction projects and then build and deliver those projects faster, cleaner, more efficiently and with a better overall client experience and satisfaction than traditional construction methods. The modular aspect of our DIRTT Solutions allows them to be easily reconfigured with a minimal amount of waste as client space needs change. Our innovative, technology-driven approach includes outstanding product design that is customized for each client application and delivered on time and on budget.

Our strategy is founded on the following priorities:

- The identification and pursuit of client segments that benefit most from DIRTT’s value proposition;
- Client-centric, continuous innovation in DIRTT Solutions and our technology to enhance product differentiation and drive market penetration and growth;
- Technology-enabled manufacturing processes that facilitate short lead times, a reliable client service platform, and outstanding quality on a cost-effective basis; and
- Ongoing development and support of our Distribution Partners to ensure flawless execution and a superior end client experience.

In combination with a focus on cost-discipline, a continuous improvement philosophy, and a focused approach to capital investment, we believe these strategic priorities will drive increased value creation for our employees, clients, Distribution Partners, and shareholders.

Our Competitive Strengths

We believe the following attributes provide us with competitive strengths in the interior solutions manufacturing industry:

- *Leader in Integrated Design and Manufacturing Technology*. We believe our ICE Software is the only interior construction technology that efficiently integrates the design, configuration, and virtual reality visualization processes with the manufacturing process. The use of 3D technology in a design environment, utilizing video game technology for real time decision making, is an approach pioneered by DIRTT.
- *Easy and Intuitive Software Interface*. Our ICE Software is a fast, powerful tool with an intuitive user interface. Our software's ease of use enables rapid time-to-value for our clients and collaboration among all the stakeholders involved in the design, reconfiguration, budgeting and manufacturing processes. Our use of 3D virtual reality and augmented (mixed) reality technologies enables clients to visualize and modify their designs before manufacturing begins, thereby reducing cost and time to completion.
- *Proprietary Solutions Components.* The physical components that comprise our DIRTT Solutions have been designed to provide clients with numerous options and full modularity. As a result, we are able to create interior environments that are fully customizable and not limited by a pre-set product list. The modular nature of our components allows them to be reconfigured easily, with minimal disruption to the occupants of the space and with minimal job site waste.
- *Strong Distribution Partner and Sales Network.* Our strong network of Distribution Partners and DIRTT sales representatives allows us to maximize our geographic reach, helps build brand awareness in the interior construction market, and enhances our positioning in our target markets.
- *Superior Results Compared to Traditional Design and Construction.* We believe we produce superior client results as compared with traditional design and construction methods in sequencing, certainty, budget allocation, and outcome.
  - *Effective Sequencing*. Conventional construction generally follows a rigid sequencing process. Typically, wall framing is constructed first, followed by floors and electrical and data networks. This process is then followed by drywall installation, painting, and flooring, and then installation or building of millwork and fixtures. These steps generate significant waste and create opportunities for delay, change orders, cost overruns and rework. In contrast, DIRTT Solutions design and integrate the walls, floors and ceiling, including the finish, electrical wiring and data networks. They are manufactured off-site and arrive on-site organized, labeled and ready to be installed. This enables the interior solutions to be produced concurrently with on-site construction work, thereby reducing on-site time and the overall construction schedule.
  - *Certainty*. Our technology-based design and manufacturing solutions address changes in design, communications with clients, and material costs with more certainty than conventional construction methods, which often involve retrofitting electrical and data networks, change orders, uncertain timelines, and costly rework. Our controlled manufacturing environment reduces deficiencies and errors and produces more consistent solutions in predictable time frames.
  - *Budget.* Because of our integrated design, visualization and manufacturing technologies, we can price the effect of design choices and changes immediately and deliver the fully designed, manufactured interior solutions ready to install. This provides budget certainty both in the cost of our DIRTT Solutions as well as in on-site labor for the installation process.
  - *Outcome*. Our interior spaces look like the images our clients expect from the design drawings and virtual visualizations, because those same drawings and visualizations drive the manufacturing process. Plumbing, electrical, A/V and data networks are integrated into the architecture of our DIRTT Solutions. For example, DIRTT Walls carry an aesthetic of permanent walls, but if an IT or facilities team needs to get inside the wall for any reason, they can use a tool to remove the surface of the wall to examine the wall cavity quickly, cleanly and quietly. This eliminates the need to knock down, and then patch and repaint, drywall or reconfigure fixtures and cabinetry. Our modular designs offer flexibility and interconnectivity with any technology, furniture, millwork or DIRTT Solutions that were previously used or that will be used in the future, allowing clients to reconfigure and repurpose their space while reducing disruptive and time-consuming demolition and waste removal.

Distribution Partners and Sales Network

We primarily sell DIRTT Solutions through a network of independent Distribution Partners working in conjunction with local DIRTT sales representatives, as well as internal DIRTT industry specialists, business development professionals and a dedicated Distribution Partner support team. Distribution Partners and local sales representatives are located in cities throughout the United

States and Canada. The use of a dispersed network of Distribution Partners greatly enhances our ability to drive awareness of the DIRTT brand throughout our markets.

As part of our distribution agreements, our Distribution Partners are typically required to invest in their own DIRTT Experience Center ("DXC") so that they are able to effectively showcase DIRTT Solutions. These DXCs are showrooms that provide mock-ups of DIRTT Solutions and related product offerings. As well, DIRTT maintains DXCs in Calgary, Toronto, Chicago, New York City, Savannah, Salt Lake City and Dallas. On February 22, 2022 we announced our intention to close our Phoenix DXC.

Our Distribution Partners operate under agreements that outline sales goals and marketing territories which are generally non-exclusive. We expect our Distribution Partners to build regional DIRTT-dedicated teams (sales, design and project management) and to use our ICE Software in the sales process. In addition to sales and marketing, our Distribution Partners provide value throughout the construction process. At the pre-construction stage, Distribution Partners provide design assistance services to the architect and designer; throughout the construction process, Distribution Partners act as a specialty subcontractor to the general contractor and provide installation and other construction services. Post-move in, Distribution Partners provide warranty work, ongoing maintenance and reconfiguring support. Local DIRTT sales representatives work closely with the Distribution Partners throughout the process to ensure successful project implementation and the highest client satisfaction. Distribution Partners generally place orders for DIRTT Solutions directly with us and pay us directly for such orders.

We have the ability to bring on new Distribution Partners in a wide range of geographic areas, which permits us to quickly establish a presence in new market areas. Our Distribution Partners also scale our virtual reality technology, such as our phone- and tablet-based applications, to fit their capacity and needs.

At December 31, 2021, we had a total of 69 Distribution Partners and 65 sales representatives across North America. We are not dependent on any one Distribution Partner or sales representative.

Manufacturing and Properties

Our DIRTT Solutions are manufactured at our facilities in Calgary, Alberta; Savannah, Georgia; and Rock Hill, South Carolina. On February 22, 2022 we announced our intention to close the Phoenix manufacturing facility and move related production to the Calgary and Savannah manufacturing facilities. This includes the Phoenix DXC as discussed in Item 1. Business in this Annual Report. Our wall surfaces (which we call tiles) are manufactured in Calgary and Rock Hill, casework and timber solutions are manufactured in Calgary, while aluminum, glass and power components are manufactured in Calgary and Savannah. Through distributed manufacturing we can shift production of some components among our manufacturing sites, reduce transportation times and costs, and meet targeted lead times. In 2019, we conducted an evaluation of our aluminum, tile and millwork capacities under various growth scenarios and concluded that the capacity of our aluminum manufacturing facilities is currently sufficient to support our anticipated growth. Given the longer lead time to acquire tile and millwork manufacturing equipment, combined with a lack of redundancy in those manufacturing facilities, we also concluded that we should commence construction of a new combined tile and millwork facility. In the fourth quarter of 2019, we entered into a lease for a building located in Rock Hill, South Carolina (the "South Carolina Facility"), which added approximately 130,000 square feet of manufacturing space for the combined tile and millwork factory. We substantially completed construction of the South Carolina Facility and commissioned the chromacoat tile line in the second quarter of 2021 with the millwork capabilities deferred until activity improves. In February 2022, we announced our intention to expand our tile manufacturing capabilities at the South Carolina Facility to include thermofoil through the relocation of existing underutilized equipment from the Calgary tile facility and back painted glass capabilities through the relocation of equipment from the Phoenix facility. Should the need arise, we have the right to lease an additional 130,000 square feet of space at our South Carolina Facility. If we experience additional growth, we may need to add or expand additional manufacturing facilities.

Suppliers and Raw Materials

Our inventory balances consist primarily of raw materials, which are kept on hand as components of our custom manufacturing process. Managing our raw material inventory is essential to our business, given our short lead times from order to shipment and our high level of order customization. Our key manufacturing materials are aluminum, hardware, wood and glass. For the twelve months ended December 31, 2021, aluminum accounted for approximately 30.1% of our purchased materials, while hardware, wood and glass accounted for approximately 13.9%, 11.1%, and 7.8%, respectively. While we maintain multiple suppliers for key materials, for the twelve months ended December 31, 2021, one supplier accounted for approximately 59% of our aluminum supply with three additional suppliers providing approximately 14% each, two suppliers accounted for approximately 58% and 36% of our wood supply and one supplier accounted for approximately 44% of our hardware supply.

Materials are sourced domestically and, to a much lesser extent, overseas. Approximately 93% of our materials are manufactured and purchased in North America. Purchase decisions are made on the basis of quality, cost and ability to meet delivery requirements. We do not typically enter into long-term agreements with suppliers. In general, adequate supplies of raw materials are available to all our operations and to date we have not been materially impacted by supply chain disruptions due to the COVID-19 pandemic, other than inflationary price pressures across substantially all of our raw material requirements, although aluminum purchases may be subject to market capacity constraints.

Technology and Development

We continue to focus on developing client-centric innovations and enhancements of both ICE Software and DIRTT Solutions with a primary focus on improving client experience, increasing market penetration and growing key markets. At December 31, 2021, we employed 100 employees within our technology and development groups and, including capitalized amounts, invested $11.1 million, $11.6 million and $11.3 million in 2021, 2020 and 2019, respectively, in innovation activities.

Clients

DIRTT's principal geographic markets are the United States and Canada. Our revenue is derived almost entirely from projects in North America sold by our North American Distribution Partners.

Our revenue opportunities primarily come from commercial projects, including both new construction projects and renovations of existing buildings. Clients range from small owner-managed businesses to multinational Fortune 500 companies across a variety of industries, including healthcare, education, financial services, government and military, manufacturing, non-profit, energy, professional services, retail, technology and hospitality. We view DIRTT Solutions as generally industry agnostic, with applications in many different industries with minimal adjustments. We are not dependent on any one client or industry segment. No single client represented more than 10% of our revenue for the years ended December 31, 2021, 2020, or 2019.

Competition

The overall market for interior construction is fragmented and highly competitive. The principal competitive factors in the interior construction industry include price (including cost certainty), speed, quality, customization and service. Our main competitors are comprised primarily of conventional construction firms, individual tradespeople (including framers, drywall installers, and interior product designers) and modular systems manufacturers. Additionally, conventional construction firms are beginning to develop customizable wall paneling and other interior construction solutions and may directly compete with our DIRTT Solutions. We also compete with commercial furniture manufacturers, such as Teknion Corporation, Haworth Inc. and Allsteel Inc., who offer a variety of prefabricated interior wall solutions. We expect competition to increase as new entrants or solutions enter the interior construction market. See Item 1A. "Risk Factors".

Seasonality

The construction industry has also historically experienced seasonal slowdowns related to winter weather conditions and holiday schedules, which affect shipping and on-site installation dates, in the fourth and first quarters of each calendar year. Our business has generally, but not always, followed this trend with a slight time lag, leading to stronger sales in the second half of the year versus the first half. Weather factors can also influence third-party exterior construction schedules and site conditions, which may in turn affect timing of interior renovations.

Due to the fixed nature of certain of our manufacturing costs, such as our facilities leases and related indirect operating costs, periods of higher revenue volume tend to generate higher gross profit and operating income margins while periods of lower volume tend to result in lower gross profit and operating income margins. Quarters that contain consistent monthly manufacturing volumes tend to generate higher gross profit than those where manufacturing levels vary significantly from month to month.

Patent and Intellectual Property Rights

Our success depends, in part, upon our intellectual property rights relating to our products, production processes, our technology, including our ICE Software, and other operations. We rely on a combination of trade secret, nondisclosure and other contractual arrangements, as well as patent, copyright and trademark laws, to protect our proprietary rights and competitive advantage. We register our patents and trademarks as we deem appropriate and take measures to defend patents where we deem others are infringing on our patents. The following table presents the status as of December 31, 2021 of our issued and pending patents relating to various aspects of DIRTT Solutions and ICE Software:

Jurisdiction	Granted Patents	Applications Pending
Canada	66	44
United States	119	22
European Union	48	27
Singapore	22	4
Patent Cooperation Treaty	-	8
Other	82	4
Total	**337**	**109**

Our issued patents expire between 2022 and 2039. We do not believe that the expiration of any individual patent will have a material adverse effect on our business, financial condition or results of operations. As we develop innovations and new technology, we expect to file additional and supplemental patents to protect our rights in those innovations and new technology.

Sustainability and Environmental Matters

The construction industry generates a significant amount of waste and is estimated to contribute approximately 39% of global carbon emissions. In order to address the growing climate challenges and meet the goals set in the Paris Agreement, the construction industry has begun moving towards decarbonization and sustainable design integration. This includes sustainable material selection and offsite construction.

Sustainability is an integral component of DIRTT's corporate brand identity. From our solution design and material selection to installation and beyond, sustainable behaviors are built into our decisions and processes. DIRTT's industrialized construction approach utilizes lean manufacturing methods and strategic material sourcing to limit waste production. Renewable energy is leveraged to help reduce the carbon footprint of our operations and solutions. Our innovations and products generally work with prior iterations, and our solutions can adapt to changing needs. We believe our projects help reduce the wastefulness present in conventional construction methods because our clients obtain customized spaces that can be more easily reconfigured over time and with higher recycled or recyclable content.

In 2021, we released our first Environment, Social and Governance (ESG) report outlining our commitment to sustainability and the environment, as well as providing full disclosure of our current environmental and sustainability impacts. As we continue to work towards the goals set forth in our ESG report and advance our efforts by setting new goals, we continue to better our business and solutions for our clients.

Government Regulations

The operation of our business is subject to stringent and complex laws and regulations pertaining to health, safety and the environment. As an owner or operator of various manufacturing facilities, we must comply with these laws and regulations at the federal, state, provincial and local levels in both the United States and Canada. Failure to comply with environmental laws and regulations may trigger a variety of administrative, civil or criminal enforcement actions, including the assessment of monetary penalties, the imposition of investigative or remedial requirements, or the issuance of orders limiting current or future operations. Certain environmental statutes impose strict, joint and several liability for costs required to clean up and restore sites where hazardous substances or industrial wastes have been mismanaged or otherwise released.

While we do not believe that compliance with federal, state, provincial or local environmental laws and regulations will have a material adverse effect on our business, financial position or results of operations, we cannot provide any assurances that future events, such as changes in existing laws or regulations, the promulgation of new laws or regulations, or the development or discovery of new facts or conditions related to our operations will not cause us to incur significant costs.

Legal and Regulatory Proceedings

We may be involved from time to time in various lawsuits, claims, investigations and other legal matters that arise in the ordinary course of business, including matters involving our products, intellectual property, relationships with suppliers, relationships with Distribution Partners, relationships with competitors, employees and other matters. We may, for example, be a party to various litigation matters that involve product liability, tort liability and claims under other allegations, including claims from our employees either individually or collectively. We do not believe that any current claims, individually or in the aggregate, will have a material adverse effect on our financial condition, liquidity or results of operations. For additional information regarding our current legal proceedings, see Item 3. "Legal Proceedings."

Implications of Being an Emerging Growth Company

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act enacted in April 2012. Certain specified reduced reporting and other regulatory requirements are available to public companies that are emerging growth companies. These provisions include:

- an exemption from the auditor attestation requirement in the assessment of our internal controls over financial reporting required by Section 404 of the Sarbanes-Oxley Act of 2002;
- an exemption from the adoption of new or revised financial accounting standards until they would apply to private companies;
- an exemption from compliance with any new requirements adopted by the Public Company Accounting Oversight Board requiring mandatory audit firm rotation or a supplement to the auditor's report in which the auditor would be required to provide additional information about our audit and our financial statements; and
- reduced disclosure about our executive compensation arrangements.

We will continue to be an emerging growth company until the earliest of:

- the last day of our fiscal year in which we have total annual gross revenues of $1.07 billion (as such amount is indexed for inflation every five years by the SEC to reflect the change in the Consumer Price Index for All Urban Consumers published by the Bureau of Labor Statistics, setting the threshold to the nearest $1 million) or more;
- December 31, 2024;
- the date on which we have, during the prior three-year period, issued more than $1 billion in non-convertible debt; or
- the date on which we are deemed to be a "large accelerated filer" under the rules of the SEC, which means the market value of our common shares that is held by non-affiliates (or public float) exceeds $700 million as of the last day of our second fiscal quarter in our prior fiscal year.

We have elected to take advantage of certain of the reduced disclosure obligations in this Annual Report and may elect to take advantage of other reduced reporting requirements in future filings. As a result, the information that we provide to our shareholders may be different than what you might receive from other public reporting companies in which you hold equity interests. However, we have irrevocably elected not to avail ourselves of the extended transition period for complying with new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

Human Capital Resources

As of December 31, 2021, DIRTT employed 1002 employees, 99% full time, 1% part time. We had 989 full-time employees consisting of 588 employees in production, 110 employees in sales and marketing, 100 employees in technology and development, 112 employees in operations support, and 79 general and administrative employees. At year-end, approximately 56% of our workforce are salaried employees and approximately 44% are compensated on an hourly basis. As of December 31, 2021, approximately 33% of our workforce was based in the United States, and approximately 67% was based in Canada. Our 2021 hiring efforts were directed towards both our manufacturing and non- manufacturing functions. This reflects the build out of our commercial organization, accounting for 20% of our new hires, and streamlining our operations space, accounting for 59% of our hiring activities. The Company's recent gender diversity data shows that 28% (2020 – 28%) of our employees are female company wide. In 2021 we hired 137 employees, with 36% of new employees being female. On February 22, 2022, we announced an intended reduction of our salaried headcount by approximately 18%.

Diversity & Inclusion

DIRTT recognizes the importance of progressing conversations and initiatives around diversity and inclusion. "Grow through diversity" is one of our core values. Our strategy encompasses leadership training around key topics related to unconscious bias, allyship and the value of attracting and retaining a diverse and inclusive organization. The strategy further focuses on the establishment and deployment of learning streams, mentoring circles and incorporation of inclusive language into our offer packages and benefit materials. Our efforts begin at the early stages of the employee life cycle, where diversity candidates are highlighted and presented to hiring managers for review. We seek to hire based on talent, skill, capability needs and fit. DIRTT has also incorporated diversity into various internal programs including succession planning and risk profiles.

Culture & Engagement

DIRTT has put measures in place to assess and enhance the level of engagement and satisfaction of our employees. Specific activities include the deployment of a performance management tool, catered to drive discussions around team goals, performance and development opportunities, and greater transparency around policy and procedures, tied to cost and risk mitigation.

In the first quarter of 2021, we introduced a leadership development program with a total of 146 employees registered that focuses on six core leadership competencies; feedback, communication, conflict, emotional intelligence, leadership presence and navigating change.

In the fourth quarter of 2021, we deployed our company-wide engagement survey focused on core themes of meaningful work, supportive management, positive work environment, growth opportunity, trust in leadership and mental health awareness. Targeted initiatives are being put in place companywide to assess the progression of themes from the survey on overall employee engagement and experience.

Additional initiatives that we attribute to the progression of culture and engagement include launching learning and development opportunities, enhanced communication platforms, employee recognition programs, a company-wide philanthropic organization and a strong focus on virtual social events to further support engagement and connection throughout the COVID-19 pandemic.

Connecting to our community is a critical piece of the DIRTT story. We continue to focus on establishing a stronger community investment program that demonstrates our drive to put community at the center of the business. This involves developing a strategy, carving out a roadmap of initiatives and establishing a committee of employees across the organization. As part of our strategy, we are focusing our efforts on establishing meaningful engagement opportunities, creating inclusive giving campaigns, driving sustainable impact and enabling our employees to connect on philanthropic efforts. In the fourth quarter of 2021, we successfully completed our holiday giving campaign which was a coordinated in-person and virtual effort in support of food banks across North America, focusing on the cities in which we operate. The support for this campaign helped to reconnect DIRTT employees' desire to give back with tangible outcomes for their communities.

Our core commitment to organizational safety resulted in a Total Recordable Incident Frequency ("TRIF") of 0.5 in 2021 and 2020, more than 88% below the industry average and a significant improvement from 4.9 TRIF in 2019. Our enhanced health and safety protocols have been effective thus far in mitigating the spread of COVID-19 infections within our facilities and have helped us to avoid any material production disruptions.

We use a range of compensation incentives which vary by role, including annual variable compensation determined based on a combination of achieving team objectives and financial targets for the Company; quarterly bonuses for our manufacturing personnel paid on adherence to targets related to safety, quality, delivery, inventory and productivity; and commissions based on sales. We also use various forms of stock-based compensation as a retention tool and to further align employee interests with the interests of our shareholders. We monitor our retention by way of voluntary turnover, which was 15% in 2021.

In response to the COVID-19 pandemic, DIRTT established a business continuity and response committee to develop robust company-wide COVID-19 protocols and guidelines. Our COVID protocols encompass our employees, visitors and our contractors. The committee has prepared easily accessible COVID-19 guidelines for all areas of the business, including manufacturing, travel, client tours and day-to-day operations. In addition, we have established protocols for reporting and contact tracing, and we have a mandate to limit access to our facilities, offices and other spaces to only essential personnel to further minimize the risk of exposure to COVID-19. DIRTT provides financial support to our employees who test positive or have been identified as a close contact. To ensure that our teams are healthy and safe, we have implemented regular fogging (sanitization) at all our manufacturing facilities and our head office. We have also implemented enhanced cleaning protocols (including the use of stronger chemical concentrations with a focus on high touch areas), increased signage, shift rotations in cafeterias, limited headcounts in conference and meeting rooms, and work-from-home guidelines and other best practices. We provide all our employees, visitors, and contractors with the required COVID-19 controls including personal protective equipment.

In addition, we have taken measures to address the mental health of our employees through a variety of company-wide initiatives. We have established a safety champions committee responsible for ensuring any employee or visitor coming into our spaces is briefed on our COVID-19 protocols and guidelines. Lastly, we have implemented an app for reserving workspaces to help our employees adhere to our social distancing protocols, provide for greater support of contact tracing and ensure we adhere to capacity levels that will help us maintain safety protocols related to COVID-19.

None of our employees are covered by collective bargaining agreements. We have never experienced labor-related work stoppages or strikes, and we believe we currently have a positive relationship with our employees.

Item 1A. Risk Factors.

Investing in our common shares involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this Annual Report, including our consolidated financial statements and the related notes and Part II, Item 7. entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations," and in any documents incorporated in this Annual Report by reference, before deciding whether to invest in our common shares. The occurrence of any of the events or developments described below could harm our business, financial condition, results of operations, and growth prospects. In such an event, the market price of our common shares could decline, and you may lose all or part of your investment. Although we have discussed all known material risks, the risks described below are not the only ones that we may face. Additional risks and uncertainties not currently known to us or that we currently deem immaterial may also impair our business operations. Certain statements below are forward-looking statements. See also "Special Note Regarding Forward-Looking Statements" in this Annual Report.

Risks Related to Our Business and Industry

Our business, financial condition, results of operations and growth could be harmed by the effects of the COVID-19 pandemic and related government measures.

The COVID-19 pandemic has created significant volatility, uncertainty and economic disruption. The extent to which COVID-19, or other public health pandemics or epidemics, impact our employees, operations, customers, suppliers and financial results will depend on numerous evolving factors that we may not be able to accurately predict, including: the duration and scope of the COVID-19 pandemic (and whether there is a resurgence or multiple resurgences of the virus in the future, including as a result of strain variations); the actions taken by governments and public health officials in response to the pandemic; the availability and effectiveness of vaccines, approvals thereof and the speed of vaccine distribution; the impact on construction activity (including related supply chain and labor shortages and their effects on construction schedules and timing); the effect on our customers' demand for our DIRTT solutions; our ability to manufacture and sell our products; and the ability of our customers to pay for our products. For example, while many of our products support life sustaining activities and essential construction, we, and certain of our customers or suppliers, may be impacted by state or provincial actions, orders and policies regarding the COVID-19 pandemic, including temporary closures of non-life sustaining businesses, shelter-in-place orders, and travel, social distancing and quarantine policies, the implementation and enforcement of which may vary by individual jurisdictions. On September 9, 2021, President Biden issued executive orders establishing, among other things, new vaccination requirements applicable to U.S. federal workers and contractors, large employers and healthcare workers. Subject to limited exceptions, the executive order requires U.S. employees of federal contractors to be fully vaccinated against COVID-19 by January 18, 2022. In January 2022, the U.S. District Court for the Southern District of Georgia issued a ruling enjoining the vaccine mandate portion of the executive order. As a federal contractor, we are subject to the executive order and, despite the injunction, have implemented mandatory vaccination rules for all U.S. employees and subcontractors to satisfy the requirements by January 18, 2022. Further, additional vaccine mandates may be announced in jurisdictions in which our businesses operate. Our implementation of these rules may result in attrition, including attrition of skilled labor, and difficulty securing future labor needs. Additionally, our implementation of these rules may impact our ability to maintain satisfactory arrangements with third-party vendors and service providers, to the extent they are subject to vaccination requirements and they or their employees are unable or unwilling to comply. Any of the foregoing events could have a material adverse effect on our business, liquidity or results of operations.

The shareholder meeting requisition notice delivered by 22NW Fund, LP ("22NW Fund") could cause us to incur substantial costs, disrupt our operations and strategy, divert the board's and management's attention, or have other material adverse effects on us.

On November 17, 2021, 22NW Fund took steps to requisition a special meeting of the Company's shareholders in order to remove six of the independent directors of the Company and replace them with hand-picked nominees of Mr. Aron English of 22NW Fund. The intentions of 22NW Fund may not be aligned with the interests of our other shareholders. Responding to such actions may be costly and time-consuming, disrupt our operations and strategy, and divert the attention of the board of directors (the "Board") and our management team from running our business, executing our strategic plan and maximizing performance for our shareholders. In addition, the uncertainty arising from the shareholder requisition could lead to the perception of a change in the direction of our business or instability with our Distribution Partners, clients, suppliers or customers, which may be exploited by our competitors, and may result in the loss of potential business opportunities and make it more difficult to attract and retain qualified personnel and business partners, any of which could materially and adversely affect our business and operating results. Moreover, the results of the requisition could impact the strategic direction of the Company in a manner that is adverse to our business and operating results.

We may not be successful in implementing our strategic plan or managing growth.

In November 2019, we unveiled a four-year strategic plan to scale our business based on three key pillars: commercial execution, manufacturing excellence and innovation. We have implemented several steps in furtherance of our strategic plan, including improvements in our commercial function and enhancements to our product suite and software platform.

While we are confident in our strategy, we no longer believe that the financial targets articulated in November 2019 will be achieved by the end of 2023. Implementation of our strategy will require maturity of systems and processes across the organization. There is also no assurance that successful implementation will lead to sustainable, profitable growth, and may itself be disruptive to the Company. Failure to implement our strategic plan could materially and adversely affect our near-term sales, commercial activities, and ability to develop and sustain profitable growth. In addition, the success and timing of our implementation may be dependent upon external factors outside of our control, including the COVID-19 pandemic and its negative impact on construction activities as a whole. However, we remain confident that DIRTT's value proposition will be as or even more relevant in the post-pandemic world.

Our strategy also depends in part on our ability to maintain and manage growth effectively. Growth in our headcount and operations may place significant demands on our management and operational and financial resources. Additionally, managing growth of our operations and personnel requires continuous improvement of our internal controls and reporting systems and procedures. Failure to effectively manage growth could result in difficulty providing current DIRTT Solutions and introducing future solutions, difficulty in securing clients and Distribution Partners, declines in quality or client satisfaction, increases in costs or other operational difficulties. Any of these difficulties could lead to a loss of investor confidence and adversely affect our business performance, financial condition and results of operations.

Our industry is highly competitive, and we may not be successful in educating potential clients about the benefits of our innovative and unique approach to interior construction as compared to traditional interior construction methods.

We operate in the highly competitive interior construction industry that is constantly developing and changing. We compete against conventional construction firms, individual tradespeople and modular systems and commercial furniture manufacturers. New market entrants and conventional construction firms are also beginning to develop customizable wall paneling and other modular interior construction solutions, and we expect this trend to continue. In addition, we may face pricing pressure from competitors or new market entrants who take on projects at reduced prices or employ other competitive strategies. While we believe our innovative design, quality, schedule and cost certainty, and network of Distribution Partners makes us well-positioned in the market, increasing competition could make it difficult to secure new projects at acceptable operating margins.

Our products are unique and offer an alternative to traditional construction techniques. Although offsite construction methods are gaining market acceptance, this still represents only a fraction of all construction methods and the overall construction market. Our ability to grow and increase market share depends, in part, on our success in continuing to increase demand for modular construction methods and products as an alternative to more traditional construction methods. While we intend to follow a strategy of innovative product development and strategic marketing efforts to enhance our position, there is no assurance that our solutions will attain a degree of market acceptance sufficient for sustained profitable operations. Failure to compete effectively by, among other things, meeting consumer preferences, developing and marketing innovative solutions, maintaining strong client service and distribution relationships, growing market share, and expanding our solutions capabilities could have a material adverse effect on our liquidity, financial condition, or results of operations.

Our former co-founders' competitive behavior against us could have an adverse effect on our business, financial condition and results of operations.

Our co-founders and former executives, Mogens Smed and Barrie Loberg, have started an interior construction and manufacturing company that we believe competes with us. They, along with a number of our former employees and Distribution Partners who have joined their company have in-depth knowledge about our business, including our customers, employees, products and prospects, and we may be adversely affected by increased competition arising out of this business venture. We are engaged in litigation with Messrs. Smed and Loberg, entities with which they are involved, and other individuals relating to, among other things, enforcement of non-competition and non-solicitation obligations, alleged patent infringement, and alleged misappropriation of proprietary information by them or by us. See Note 18 to the Consolidated Financial Statements. If Messrs. Smed and Loberg further engage in a competitive business against us or if we are not successful in litigation, our business, financial condition and results of operations may be adversely affected.

We depend heavily on our network of Distribution Partners, and the loss or inattention of our Distribution Partners, or the failure of our Distribution Partners to meet their obligations to us, could materially and adversely affect our business, financial condition and results of operations.

We currently do not engage in many direct sales projects and rely almost exclusively on our network of Distribution Partners to promote brand awareness, sell and market DIRTT Solutions, and provide design, installation, distribution and other services to clients on each project. While we are not dependent on any single Distribution Partner, sales generated by approximately 10% of our Distribution Partners comprised approximately 40% of our total revenues for 2021 (2020 – 40%). The loss of any top performing Distribution Partners, particularly to our competitors, may negatively affect our sales, financial condition or results of operations. It may further impair our ability to maintain a market presence in a particular geographic region until a new Distribution Partner relationship is established, which would require significant time and resources.

Although we provide our Distribution Partners with training, education and support, they may be unable to successfully sell our DIRTT Solutions, execute projects or manage client experiences and relationships. In addition, our Distribution Partners and their clients may face financial difficulties or may become insolvent, which could result in the delay or cancellation of their plans to purchase DIRTT Solutions or lead to our inability to obtain payment of accounts receivable that they may owe. If we are unable to maintain a successful Distribution Partner network, our business, financial condition and results of operations could be materially and adversely affected.

Risks Relating to Our Products and Software

We may be unsuccessful in designing, introducing or selling new, innovative solutions, solution features or software.

Our future success depends in part on our continuing ability to promote and demonstrate the value proposition of DIRTT Solutions, as well as our ability to develop and sell new, innovative solutions, solution features or software that differentiate our solutions and achieve market acceptance in a timely and cost-effective manner. We incur significant costs associated with the investment in our research and development in furtherance of our strategy that may not result in increased revenue or demand for DIRTT Solutions and that could negatively affect our results of operations. Rapidly changing technology, evolving regulatory and industry standards, and changing consumer trends, demands and requirements require us to continuously innovate and develop new, high-quality solutions, solutions features and software. Additionally, such rapid technological changes, standards and preferences could render the complex and proprietary technology of our software and solutions obsolete. We may also be unable to successfully address these developments on a timely basis, or at all. New solutions, solution features or software may also be less successful than we anticipated, and such offerings may fail to achieve market acceptance. If we fail to respond quickly and cost-effectively to a changing market and changing consumer preferences, our competitive position, financial condition and results of operations could be materially and adversely affected.

Our software and products may have design defects, deficiencies, or risks, and we may incur additional costs to fix any defects, deficiencies or risks, or be subject to warranty or product liability claims.

Our software and solutions are complex and must meet the technical requirements of our clients and applicable building codes and regulations. Our solutions may contain undetected errors or design and manufacturing defects, and our software may experience quality or reliability problems, or contain bugs or other defects. Software defects may also cause errors in our manufacturing or miscalculations in ordering pricing and could lead us to incur losses and lose market share to competitors. Product or software defects could cause us to incur warranty costs, product liability costs, and repair and remediation costs. Although we maintain warranty reserves based on production, historical claims and estimates, future warranty claims may exceed this amount. Similarly, while we maintain insurance of the types and amounts we consider commercially prudent and consistent with industry practice, such insurance coverage may not be sufficient to protect us against substantial claims. Such claims can be expensive to defend, could divert the attention of management and other personnel for significant periods, regardless of the ultimate outcome, and could result in negative publicity. Increased costs to address product warranty claims or to defend against product liability claims may result in increased expenses and adversely affect our financial condition and results of operations.

We are subject to fluctuations in the prices of raw materials and commodities which could adversely affect our liquidity, operating margins and financial condition.

We purchase raw materials, including aluminum, glass and wood, from a number of local and global suppliers. The costs of these commodities can fluctuate due to changes in global supply and demand, speculation in commodities futures, and changes in tariffs or trade barriers, which can also interrupt supply. In addition, we have not historically entered into long-term agreements with vendors and may be exposed to short-term and long-term price fluctuations as a result.

Aluminum represents the largest component of our raw materials consumption. We have experienced fluctuations in the price of aluminum and anticipate that these fluctuations will continue in the future. In particular, during 2021 we experienced significant price inflation across substantially all of our materials, largely due to pandemic-induced supply chain constraints, and it is unclear whether such price increases will be temporary or permanent in nature. Since 2018, the U.S. government has imposed tariffs on steel and aluminum and limited the amounts of steel and aluminum coming into the United States based on the countries of origin of those imports. In 2021 and 2020, we sourced the majority of our aluminum from North America and sourced under 10% of our raw materials from outside North America. Nonetheless, substantial, prolonged upward trends in aluminum and other commodity prices, along with tariffs and import limitations, could significantly increase our costs and adversely affect our liquidity, operating margins and financial condition.

We rely on a limited number of outside suppliers for certain key components and materials, and failure or delay in obtaining the necessary components or materials could delay or prevent the manufacturing or distribution of our DIRTT Solutions.

We rely on certain key suppliers for raw materials and components, including aluminum, glass, wood and hardware. We maintain multiple suppliers for key materials, although for the year ended December 31, 2021, one supplier accounted for approximately 59% of our aluminum supply with three additional suppliers providing approximately 14% each, two suppliers accounted for approximately 58% and 36% of our wood supply, and one supplier accounted for approximately 44% of our hardware supply**.** While we believe there are other vendors for most of our key requirements, certain materials and components meeting our quality standards are available only through a limited number of vendors. If we are required to obtain another source for these materials or components, we may not be able to obtain pricing on as favorable terms or on terms comparable to our competitors. Any failure or delay in obtaining the necessary raw materials or components in the quantities and quality required may result in increased costs and delays in manufacturing or distributing our products, which could have a material adverse effect on our liquidity, financial condition, or results of operations. A vendor may also choose, subject to existing contracts, to modify its relationship with us due to general economic concerns or specific concerns relating to that vendor or us, at any time. These modifications might include additional requirements from our suppliers that we provide them additional security in the form of prepayments or with letters of credit. Any significant change in the terms that we have with our key suppliers could materially and adversely affect our liquidity, financial condition or results of operations.

Risks Relating to Market Conditions

Global economic, political and social conditions and financial markets may impact our ability to do business and adversely affect our liquidity, financial condition and results of operations.

Our industry is cyclical and highly sensitive to macroeconomic conditions. Overall declines or reductions in construction and renovation due to economic downturns, unemployment and office vacancies, difficulties in the financial services sector and credit markets, and imposition of trade barriers can impact the demand for our products. Financial difficulties experienced by our suppliers, Distribution Partners or clients could also result in, among other things, inadequate project financing, project delays, inability to pay accounts receivable or disruptions in our supply chain. Any general economic, political or social conditions that may contribute to financial difficulties experienced by us, our suppliers, Distribution Partners or clients may adversely affect our liquidity, financial condition and results of operations.

We are exposed to currency exchange rates, tax rates and other fluctuations, including those resulting from changes in laws.

Our revenues and expenses are collected and paid in different currencies, including the U.S. dollar and Canadian dollar. Fluctuations in the relative values of any such currency expose us to foreign exchange risk and could have a material and adverse effect on our cash flows, revenues and results of operations. We also have currency exchange exposure to the extent of a mismatch between foreign-currency denominated revenues and expenditures – in particular, where U.S. dollar revenues do not equal U.S. dollar expenditures. We are not currently using exchange rate derivatives to manage currency exchange rate risks. There are currently no significant restrictions on the repatriation of capital and distribution of earnings to foreign entities from any of the jurisdictions in which we operate. There can be no assurance that such restrictions will not be imposed in the future.

Compliance with new or amended tax laws and regulations could have a material adverse effect on our business. We base our tax positions upon our understanding of the tax laws (including, applicable tax treaties) of the countries in which we have assets or conduct business activities. However, our tax positions are subject to review and possible challenges by taxing authorities, including as to the computation and allocation of income, transfer pricing and other complex issues. This includes adverse changes to the manner in which Canada, the United States and other countries tax local and foreign corporations and interpret or change their tax laws and applicable tax treaties, including in light of the increased focus by the U.S. Congress, the Canadian government, the Organisation for Economic Co-operation and Development and other government agencies in jurisdictions where we do business on issues related to the taxation of multinational corporations. We cannot determine in advance the extent to which such jurisdictions may amend their tax laws, review our tax positions, or assess additional taxes or interest and penalties on such taxes. In addition, our effective tax rate may be increased by changes in the valuation of deferred tax assets and liabilities, our cash management strategies, local tax rates, or interpretations of tax laws.

Risks Relating to Intellectual Property and Information Security

We may be unable to protect our intellectual property adequately from infringement by third parties, and we may also be subject to claims that we infringe on intellectual property rights of others.

We rely on a combination of contract, copyright, patent, trademark and trade secret laws, confidentiality procedures and other measures to protect our intellectual property. There can be no assurance that our various patents, copyrights or trademarks will offer sufficient protection and prevent misappropriation of our proprietary rights in our products, software or processes. We also may not be granted patents, copyrights or trademarks on our pending or proposed applications, and granted applications may be challenged, invalidated or circumvented in the future. Despite our precautions, it may be possible for unauthorized third parties to copy our applications and use information that we regard as proprietary to create products or services that compete with ours. We enforce our intellectual property rights where appropriate, but the cost of doing so may be substantial and could outweigh the potential benefits, and we may be unsuccessful in our enforcement efforts. Failure to protect or maintain the proprietary nature of our intellectual property could adversely affect our ability to sell original products and materially and adversely affect our business, financial condition and results of operations.

Additionally, our competitors or other third parties may own or claim to own intellectual property in technology areas relating to our technology, including ICE Software, manufacturing processes, and DIRTT Solutions. Although we do not believe that our software or DIRTT Solutions infringe on the proprietary rights of any third parties, claims may arise regarding infringement or invalidity claims (or claims for indemnification resulting from infringement claims). Such assertions or prosecutions, regardless of their merit, may subject us to significant liabilities, require us to enter into royalty and licensing arrangements on unfavorable terms, prevent us from assembling or licensing certain of our products, subject us to injunctions restricting our sale of products, cause severe disruptions to our operations or the marketplaces in which we compete, or require us to satisfy indemnification commitments with our clients, including contractual provisions under various license arrangements. A damages award against us could include an award of royalties or lost profits and, if the court finds willful infringement, treble damages and attorneys' fees. This may cause us to expend significant costs and resources, and could adversely affect our business, financial condition or results of operations.

If we are unable to protect our information systems against data corruption, cyber-based attacks or network security breaches, our operations could be disrupted and our reputation and profitability could be negatively affected.

In the ordinary course of our business, we generate, collect and store confidential and proprietary information, including intellectual property and business information. The secure storage, maintenance, and transmission of and access to this information is important to our operations and reputation. We use automated software and hardware solutions to protect our on-premise and cloud infrastructure; conduct routine third-party evaluations and vulnerability testing to identify and mitigate risks; and deploy training programs throughout the company. We have experienced cyber-based attacks, but to our knowledge, we have not experienced any material disruptions or breaches of our information technology systems or platforms. However, there is no guarantee that our security systems, processes or procedures are adequate to safeguard against all data security breaches, misuse of data, cyber-attacks, acts of vandalism, computer viruses, misplaced or lost data, programming or human errors or other similar events. Any security breach involving the misappropriation, loss or other unauthorized disclosure of confidential information of a client, Distribution Partner, employee, supplier or Company information could result in financial losses, exposure to litigation risks and liability (including regulatory liability), damage to our reputation, and disruptions in our operations, all of which could have a material adverse effect on our business, financial condition and results of operations. While we maintain cybersecurity insurance of the types and amounts, we consider it commercially prudent and consistent with industry practice, such insurance may not be sufficient to cover all losses relating to an information security breach.

The regulatory environment related to information security, data collection and use, and privacy is increasingly rigorous, with new and frequently changing requirements, and compliance with those requirements could result in additional costs. The costs associated with information security, such as increased investment in technology, the costs of compliance with privacy laws, and costs incurred to prevent or remediate information security breaches, could be substantial and adversely affect our business. A significant compromise of sensitive employee, Distribution Partner, client or supplier data in our possession could result in legal damages and regulatory penalties. In addition, the costs of defending such actions or remediating breaches could be material.

Damage to our information technology and software systems could impair our ability to effectively provide DIRTT Solutions and adversely affect our reputation, relationships with clients, financial condition and results of operations.

Our information technology and software networks and systems, which include the processing, transmission and storage of information, are integrated with our manufacturing processes and essential to our business operations. These systems are vulnerable to, among other things, damage or interruption from power outages, network failures or natural disasters, loss or corruption of data, human error, employee misconduct and difficulties associated with upgrades, installations of major software or hardware, and integration with new systems. While we maintain retention backups to geo-diverse digital and physical locations and have a recovery data center, the data center and other protective measures we take could prove to be inadequate. Any disruption in our systems or unauthorized disclosure of information could result in delayed manufacturing and delivery of our DIRTT Solutions, legal claims, a loss of intellectual property and a disruption in operations, all of which could adversely affect our reputation, relationships with clients, financial condition and results of operations.

Risks Relating to Government Regulations and Enforcement

We may incur significant costs complying with environmental, health and safety laws and related claims, and failure to comply with these laws and regulations could expose us to significant liabilities, which could materially adversely affect our business and results of operations.

We are subject to laws, regulations, and other requirements with respect to workers' health and safety and environmental matters in the United States, Canada and other countries in which we operate. Environmental laws and regulations impose, among other things, restrictions, liabilities and obligations in connection with the production, processing, preparation, handling, storage, transportation, disposal and management of wastes and other substances, and the prevention and remediation of environmental effects. Health and safety laws and regulations impose, among other things, requirements designed to ensure the protection of workers. New or more stringent laws and regulations, including those relating to climate change and greenhouse gas emissions, may be adopted in the future and could impact our facilities, raw material suppliers, the transportation and distribution of our solutions, and our clients, which could reduce demand for our solutions or cause us to incur additional operating costs. In addition, certain foreign laws and regulations may affect our ability to export products outside of or import products into the United States or Canada. Failure to comply with these requirements may result in civil or criminal liability, damages and fines, and our operations could be curtailed, suspended or shutdown and our reputation, ability to attract employees, and results of operations could be adversely affected. Private lawsuits, including claims for remediation of contamination, personal injury or property damage, or actions by regional, national, state and local regulatory agencies, including enforcement or cost-recovery actions, may materially increase our costs.

These factors may materially increase the amount we must invest to bring our processes into compliance with legal requirements and impose additional expenses on our operations. In addition, any changes in these laws or regulations or changes in our manufacturing processes may require us to request changes to our existing permits or obtain new permits. We may also be unable to obtain or maintain, from time to time, all required environmental regulatory approvals. A delay in obtaining any required environmental regulatory approvals or the failure to obtain and comply with such approvals could materially adversely affect our business and results of operations.

Risks Relating to Financial Results

We have experienced a history of losses, and despite certain periods of profitability in recent years, we may not be able to generate sufficient revenue to achieve and sustain profitability.

We have incurred significant losses since commencing business. We incurred net losses of $53.7 million and $11.3 million for the years ended December 31, 2021 and 2020, respectively. At December 31, 2021, we had an accumulated deficit of $111.3 million. These losses and accumulated deficits were due in part to the substantial investments made to grow our business and acquire clients, to further develop our service offerings through product and software development, to ensure that we have sufficient production capacity and capability to deliver on our commitment of rapid delivery times and to preserve our production, innovation and commercial capabilities through the economic disruption caused by the global COVID-19 pandemic in anticipation of a significant increase in construction activity as the pandemic impacts abate. Past results may not be indicative of our future performance, and there can be no assurance that we will generate net income in the future.

We have experienced, and may experience in the future, quarterly and yearly fluctuations in results of operations and financial condition.

Our results of operations and financial condition may continue to fluctuate from one quarter or year to another due to a number of factors, some of which are outside of our control. For example, we usually experience seasonal slowdowns in the first and fourth quarters of each calendar year, leading to stronger sales in the second half of the year versus the first half, and weather conditions may also delay delivery and installation on some projects. Furthermore, sales that we anticipate in one quarter may be pushed into another quarter, affecting both quarters' results, and our actual or projected results of operations may fail to match our past performance. These events could in turn cause the market price of our common shares to fluctuate. In particular, if our results of operations do not meet the expectations of securities analysts or investors, who may derive their expectations by extrapolating data from recent historical results of operations, the market price of our common shares will likely decline. Due to our high fixed manufacturing costs and operating expenses, quarterly volatility in sales volumes could result in periods of low operating cash flow and negatively affect our liquidity. Due to these risk factors, quarter-to-quarter or year-to-year comparisons of our results of operations may not be an indicator of future performance.

We have negative cash flow from operating activities.

We had negative cash flow from operating activities for the year ended December 31, 2021. Continued negative operating cash flow may compromise our ability to make interest and principal payments on the convertible unsecured subordinated debentures issued on January 25, 2021 and December 1, 2021 (collectively, the "Debentures") on a timely basis, or at all, and to execute our strategic plan. Until we are able to generate positive cash flow from operating activities, our ability to finance our operations will be dependent on our cash reserves and available credit facilities and, if required, our ability to obtain additional external financing. Although we anticipate we will have positive cash flow from operating activities in future periods, we cannot guarantee that such future cash flow will be sufficient or that a prolonged recovery from the COVID-19 pandemic, or other changes to our circumstances, will not necessitate additional financial resources to fund our operating activities.

In response to our negative cash flow from operations, on February 22, 2022, we commenced the process of closing our Phoenix aluminum manufacturing facility, shifting related manufacturing to both our Savannah and Calgary aluminum facilities. This is expected to result in a net headcount reduction of approximately 26 and annualized cost savings of approximately $2.4 million. Additionally, we announced our intention to eliminate approximately 18% of our salaried workforce including manufacturing and office positions which, along with other cost reduction initiatives, are expected to yield annualized savings of approximately $13.0. One-time costs associated with these workforce reductions and other costs savings measures are approximately $5 million.

We have recognized, and may recognize in the future, impairment charges for our goodwill and certain other non-current assets.

During the year ended December 31, 2021, we impaired the $1.4 million net carrying value of goodwill on our consolidated balance sheet. Significant negative industry or economic trends, disruptions to our business, planned or unexpected significant changes in the use of the assets, and sustained market capitalization declines may result in the impairment of goodwill or other intangible assets. We annually test our goodwill for impairment during the fourth quarter of the calendar year. Based on our testing, the fair value of goodwill did not exceed the carrying value of its net assets and, accordingly, the entire $1.4 million balance of goodwill was impaired as at December 31, 2021. Any further charges relating to impairments could have a material adverse impact on our results of operations in the period in which the impairment is recognized.

Risks Related to Our Common Shares and Corporate Structure

Our share price has been and may continue to be volatile, which could cause the value of your investment to decline.

Our common shares are currently listed on the TSX under the symbol "DRT" and on Nasdaq under the symbol "DRTT." The price of our common shares has in the past fluctuated significantly, and may fluctuate significantly in the future, depending upon a number of factors, many of which are beyond our control and may adversely affect the market price of our common shares. These factors include: (i) variations in quarterly results of operations; (ii) deviations in our earnings from publicly disclosed forward-looking guidance; (iii) changes in earnings estimates by analysts; (iv) our announcements or our competitors' announcements of significant contracts, acquisitions, strategic partnerships or joint ventures; (v) general conditions in the offsite construction and manufacturing industries; (vi) sales of our common shares by our significant shareholders; (vii) fluctuations in stock market price and volume; and (viii) other general economic conditions.

In the past, following periods of volatility in the trading price of a company's securities, securities class action litigation has been brought against that company. If our share price is volatile, we may become the target of securities litigation in both the United States and Canada. Securities litigation could result in substantial costs and divert management's attention and resources from our business and could have an adverse effect on our business, financial condition and results of operations.

We are governed by the corporate laws of Alberta, Canada, which in some cases have a different effect on shareholders than the corporate laws of the United States.

We are governed by the ABCA and other relevant laws, which may affect the rights of shareholders differently than those of a company governed by the laws of a U.S. jurisdiction, and may, together with our charter documents, have the effect of delaying, deterring or discouraging another party from acquiring control of our company by means of a tender offer, a proxy contest or otherwise, or may affect the price an acquiring party would be willing to offer in such an instance. The material differences between the ABCA and Delaware General Corporation Law ("DGCL"), that may have the greatest such effect include, but are not limited to, the following: (i) for certain extraordinary corporate transactions (such as amalgamations or amendments to our articles), the ABCA generally requires the voting threshold to be a special resolution passed by not less than two-thirds of the votes cast by the shareholders who voted in respect of the resolution, whereas DGCL generally only requires a majority vote; and (ii) under the ABCA, registered holders or beneficial owners (as defined in the ABCA) of not less than 5% of our common shares in aggregate can requisition our directors to call a special meeting of shareholders, whereas such right does not exist under the DGCL. We cannot predict whether investors will find our company and our common shares less attractive because we are governed by the corporate laws of Alberta, Canada.

Because we are a corporation incorporated in Alberta and some of our directors and officers are residents of Canada, it may be difficult for investors in the United States to enforce civil liabilities against us or our directors and officers based solely upon the federal securities laws of the United States. Similarly, it may be difficult for Canadian investors to enforce civil liabilities against our directors and officers residing outside of Canada.

We are a corporation amalgamated and existing under the laws of Alberta with our principal place of business in Calgary, Alberta, Canada. Some of our directors and officers are residents of Canada and a substantial portion of our assets and those of such persons are located outside the United States. Consequently, it may be difficult for U.S. investors to effect service of process within the United States upon us or our directors or officers who are not residents of the United States, or to realize in the United States upon judgments of courts of the United States predicated upon civil liabilities under the Securities Act of 1933. Investors should not assume that Canadian courts: (i) would enforce judgments of U.S. courts obtained in actions against us or such persons predicated upon the civil liability provisions of the U.S. federal securities laws or the securities or blue sky laws of any state within the United States or (ii) would enforce, in original actions, liabilities against us or such persons predicated upon the U.S. federal securities laws or any such state securities or blue sky laws.

Similarly, some of our directors and officers are residents of countries other than Canada and all or a substantial portion of the assets of such persons are located outside Canada. As a result, it may be difficult for Canadian investors to initiate a lawsuit within Canada against these non-Canadian residents. In addition, it may not be possible for Canadian investors to collect from these non-Canadian residents judgments obtained in courts in Canada predicated on the civil liability provisions of securities legislation of certain of the provinces and territories of Canada. It may also be difficult for Canadian investors to succeed in a lawsuit in the United States, based solely on violations of federal, provincial or territorial securities laws.

General Risks

Difficulties in recruiting and retaining qualified officers or employees, or experiencing labor shortages or disruptions, could have a material adverse effect on our business and results of operations.

Our success will depend in part on our ability to attract, develop and retain qualified personnel as needed. We are currently searching for a permanent replacement for our chief executive officer position; however, the marketplace for attracting senior executives is competitive, and there can be no assurances concerning the timing or outcome of our search for a new chief executive officer. Although we anticipate smooth transitions, any changes to members of our senior management may be disruptive to our operations, including by diverting our Board's and management's time and attention and a decline in employee morale. If there are any delays in this process, our business could be negatively impacted. We may be affected by labor shortages or disruptions, particularly in locations where we operate manufacturing facilities. If we fail to attract or retain qualified personnel, or experience labor shortages or disruptions, we could incur higher recruiting expenses, a loss of manufacturing capabilities, or inability to respond to significant increases in demand, all of which could have a material adverse effect on our business and results of operations.

We may have additional capital needs in the future and may not be able to obtain additional capital or financing on acceptable terms.

We plan to continually invest in business growth and may require additional funds to respond to business opportunities, such as expanding our sales and marketing activities, developing new software, acquiring complementary businesses, products or technology, and expanding or enhancing our manufacturing capabilities, including factory automation. To the extent that our existing capital is insufficient to meet our requirements, we may need to undertake equity or debt financings to secure additional funds. Further issuances of equity or convertible debt securities may result in significant share dilution. Additional new equity securities issued could have rights, preferences and privileges superior to those of our currently issued and outstanding common shares. Additional debt financings may involve 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. We cannot provide any assurance that sufficient debt or equity financing will be available for necessary or desirable expenditures or acquisitions, or to cover losses, and accordingly, our ability to continue to support our business growth and to respond to business challenges could be significantly limited, and our liquidity could be materially and adversely affected.

We may engage in future mergers, acquisitions, agreements, consolidations or other corporate transactions that could adversely affect our business, financial condition, and results of operations.

While we currently have no specific plans to acquire any businesses, we may, in the future, seek to expand our business and capabilities through acquiring compatible technology, products or businesses. Additionally, we may explore other corporate transactions, including mergers, agreements, consolidations, or joint ventures, that we believe may be beneficial to our business or further specific business goals. Acquisitions involve certain risks and uncertainties, including, among other things, (i) difficulty integrating the newly acquired businesses and operations in an efficient and cost-effective manner; (ii) inability to maintain relationships with key clients, vendors and other business partners of the acquired businesses; (iii) potential loss of key employees of the acquired businesses; (iv) exposure to litigation or other claims in connection with our assumption of certain claims and liabilities of the acquired businesses; (v) diversion of management's time and focus; and (vi) possible write-offs or impairment charges related to the acquired businesses. The occurrence of any of these risks could adversely affect our business, financial condition, and results of operations.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our principal executive offices are located in Calgary, Alberta, where we lease approximately 73,000 square feet of office and manufacturing space. Our lease expires in September 2022 and we are in the process of negotiating a five-year extension. Our principal manufacturing facilities are located in Calgary, Alberta; Rock Hill, South Carolina; and Savannah, Georgia. On February 22, 2022 we announced our intention to close the Phoenix manufacturing facility and DXC as discussed in Item 1. "Business" in this Annual Report. As a result, in February 2022, we announced our intention to expand our tile manufacturing capabilities at the South Carolina Facility to include thermofoil through the relocation of existing underutilized equipment from the Calgary tile facility and back painted glass capabilities through the relocation of equipment from the Phoenix facility.

Our wall surfaces (which we call tiles) are manufactured in Calgary and Rock Hill, casework and timber solutions are manufactured in Calgary, while aluminum, glass and power components are manufactured in Calgary and Savannah. In Calgary, we lease an aggregate of approximately 358,000 square feet of manufacturing space across three facilities (excluding our principal offices), which leases expire in January 2023 and January 2024. In Phoenix, we lease approximately 130,000 square feet of manufacturing space across two facilities, which leases expire in March 2027 and we intend to sublease the Phoenix manufacturing facility and DXC upon closure. In Savannah, we lease approximately 81,000 square feet of manufacturing space, which lease expires in February 2029. In October 2019, we entered into a 15-year lease, which DIRTT may extend for two additional 5 year periods at its option, for a tile factory of approximately 130,000 square feet in Rock Hill, South Carolina. Should the need arise, we have the expansion rights to lease an additional 130,000 square feet of space. In March 2020, we entered into an 8 year lease, which DIRTT may extend an additional 5 years at its option, of approximately 18,000 square feet of space for a DXC in Dallas, Texas.

Our ICE development offices are located in Calgary, Alberta and Salt Lake City, Utah. In Calgary, we sublease approximately 8,700 square feet of office space pursuant to a lease that expires on January 31, 2023. In our Salt Lake City development office, which also houses a DXC, we lease approximately 6,600 square feet of office space pursuant to a lease that expires in December 2023. In New York City, New York, we lease approximately 4,100 square feet of space to operate a DXC; this lease expires in February 2024. In Chicago, Illinois, we own approximately 6,200 square feet of office space, which we use to operate a DXC.

Through distributed manufacturing we can shift production of some components among our manufacturing sites, reduce transportation times and costs, and meet targeted lead times. We believe that our current and planned facilities are adequate for our current needs and that suitable additional or substitute space would be available if needed.

Item 3. Legal Proceedings.

We are pursuing multiple lawsuits against our former founders, Mogens Smed and Barrie Loberg, their new company Falkbuilt Ltd. ("Falkbuilt"), and other related individual and corporate defendants for violations of fiduciary duties and noncompetition and non-solicitation covenants contained in their executive employment agreements, and the misappropriation of our confidential and proprietary information in violation of numerous Canadian and U.S. state, and federal laws pertaining to the protection of our trade secrets and proprietary information and the prevention of false advertising and deceptive trade practices.

As of December 31, 2021, our litigation against Falkbuilt, Messrs. Smed and Loberg, and their associates was comprised of four main lawsuits: (i) an action in the Alberta Court of Queen's Bench instituted on May 9, 2019 against Falkbuilt, Messrs. Smed and Loberg, and several other former DIRTT employees alleging breaches of restrictive covenants, fiduciary duties, and duties of loyalty, fidelity and confidentiality, and the misappropriation of our confidential information (the "Canadian Non-Compete Case"); (ii) an action in the U.S. District Court for the Northern District of Utah instituted on December 11, 2019 against Falkbuilt, Smed, and other individual and corporate defendants alleging misappropriation of our confidential information, trade secrets, business intelligence and customer information (the "Utah Misappropriation Case"); (iii) an action for federal patent infringement in the U.S. District Court for the Northern District of Illinois instituted on August 6, 2020 against Falkbuilt, alleging that Falkbuilt is infringing certain of DIRTT's patents relating to our proprietary ICE® software (the "Patent Infringement Case"); and (iv) an action in the U.S. District Court for the Northern District of Texas instituted on June 24, 2021 alleging that Falkbuilt has unlawfully used our confidential information in the United States and intentionally caused confusion in the United States in an attempt to steal customers, opportunities, and business intelligence, with the aim of establishing a competing business in the United States market (the "Texas Unfair Competition Case"). We intend to pursue the cases vigorously.

In the Canadian Non-Compete Case, we have conducted extensive document production and questioning of the defendants that support our claims, as follows: (i) Smed and Loberg, and others, breached their duties owed to DIRTT, including their contractual and fiduciary duties; (ii) Smed, Loberg, and others began developing the new competing company immediately after Smed's departure; (iii) before it was called Falkbuilt, the new competing company operated through a covert group comprised of then-current DIRTT employees and distribution partners known as the TTIMit Group (which stands for "This Time I Mean It"); (iv) members of the TTIMit Group took steps to conceal their communications by creating and using alias names, using private and personal email addresses and phone numbers, and holding secret meetings and gatherings; (v) the TTMit Group also used then-current DIRTT employees to build out Falkbuilt's warehouse premises and offices, source and purchase equipment for Falkbuilt, assist with market research and develop Falkbuilt's products, build vignettes and drawings, address Falkbuilt's software and computer needs, and name Falkbuilt; and (vi) members of the TTIMit Group conspired together to solicit DIRTT employees and distribution partners, design and sell competing products using DIRTT's confidential information, including DIRTT's pricing lists, DIRTT's product designs, DIRTT's personnel information, and revenue forecast information for DIRTT's distribution partners. DIRTT is seeking, among other things, an order stopping the defendants from competing with DIRTT, judgment for damages and losses, and an accounting and disgorgement of the defendants' gains from their wrongful misconduct.

In the Utah Misappropriation Case, the Court dismissed certain of the defendants, Falkbuilt Ltd., Falkbuilt, Inc. and Mogens Smed without prejudice, finding that Utah was an inconvenient forum. We appealed that ruling and also filed a motion to set aside the previously granted order granting a partial motion to dismiss without prejudice. The Court denied the Motion and that denial is consolidated with the initial appeal. The remaining portion of the Utah Misappropriation Case is stayed pending resolution of the appeal.

In the Patent Infringement Case, we are seeking, among other things, an order enjoining Falkbuilt from infringing our patents and damages for past or continuing infringement. Recently, Falkbuilt was unsuccessful in attempting to initiate an *inter partes* review and post grant review of our subject patents. The Patent Office found that Falkbuilt had not shown it would be likely to succeed in its invalidity challenges to our patents. Following those denials, the U.S. District Court ordered Falkbuilt to produce discovery regarding our claims. In January 2022, Falkbuilt informed the Court that it had discontinued use of its infringing "Echo Dome" software. On the basis of this representation, the parties entered into a stipulated dismissal without prejudice, which was filed on February 14, 2022.

In the Texas Unfair Competition Case, we allege violations of the U.S. Lanham Act, the Texas Uniform Trade Secrets Act, the Federal Defend Trade Secrets Act, the Pennsylvania Uniform Trade Secrets Act, the Colorado Consumer Protection Act, and the Ohio Deceptive Practices Act, and are seeking preliminary and permanent injunctive relief to restrain Falkbuilt from using or disclosing our confidential business information in the United States, and awards of compensatory damages, exemplary damages, and attorneys' fees. The defendants have moved to dismiss the Texas case without prejudice arguing that Texas is an inconvenient forum.

Falkbuilt also filed a lawsuit against us on November 5, 2019 in the Court of Queen's Bench of Alberta, alleging that DIRTT has misappropriated and misused their alleged proprietary information in furtherance of DIRTT's product development. Falkbuilt seeks monetary relief and an interim, interlocutory and permanent injunction of DIRTT's alleged use of the alleged proprietary information. We believe that the suit is without merit and filed an application for summary judgement to dismiss Falkbuilt's claim.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Information; Holders of Record

Our common shares are traded on the TSX under the symbol "DRT" and on Nasdaq under the symbol "DRTT."

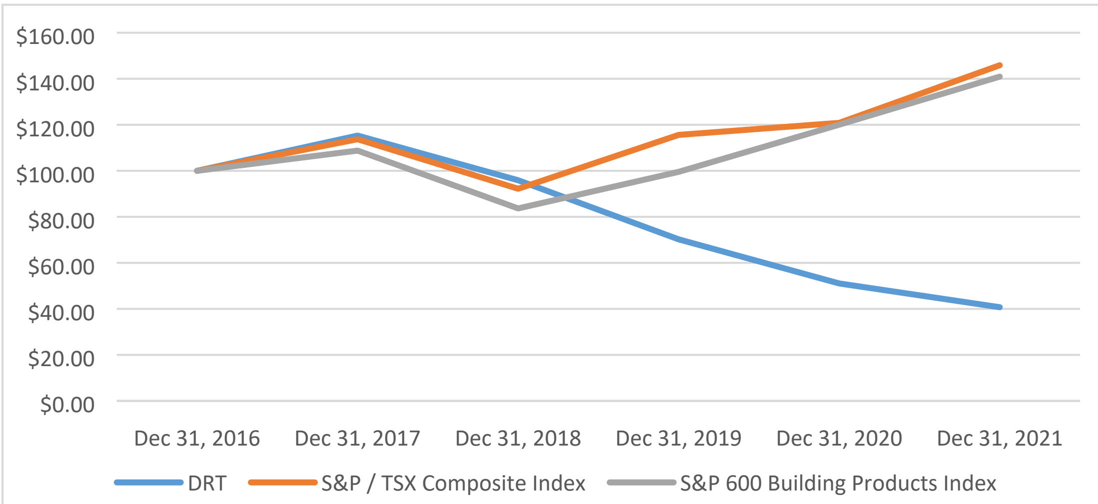
As of February 23, 2022, there were 85,351,261 common shares outstanding and 192 shareholders of record.

Dividends

We have not declared or paid any cash dividends on our common shares to date. The declaration and payment of dividends is at the discretion of the Board, taking into account (i) our earnings, capital requirements and financial condition, (ii) restrictions on our ability to pay dividends under our RBC Facility (as defined below), and (iii) such other factors as the Board considers relevant. Our RBC Facility generally limits our ability to pay any dividends or make any other distribution on our outstanding common shares. See Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations – Credit Facility" for more information.

Performance Graph

The following graph illustrates a comparison of the total cumulative shareholder return of our common shares with the cumulative return of the S&P/TSX Composite Index and the S&P 600 Building Products Index for the period commencing December 31, 2016 and ending on December 31, 2021. The graph assumes an initial investment of $100 on December 31, 2016, in our common shares, the shares comprising the S&P/TSX Composite Index, and the shares comprising the S&P 600 Building Products Index. The below shareholder return calculations are based on the exchange rates as reported by the H.10 statistical release of the Board of Governors of the Federal Reserve System as of the year-end exchange rate for the applicable period. The comparisons in the table are required by the SEC and applicable securities laws in Canada and are not intended to forecast or be indicative of possible future performance of our common shares. *This graph and related materials shall not be deemed "soliciting material" or be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liabilities under that section, and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act of 1933, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.*



$100 investment in stock or index	**Ticker**	**December 31, 2016**	**December 31, 2017**	**December 31, 2018**	**December 31, 2019**	**December 31, 2020**	**December 31, 2021**
DIRTT Environmental Solutions Ltd.	DRT	$ 100.00	$ 115.30	$ 95.89	$ 70.21	$ 51.04	$ 40.72
S&P/TSX Composite Index	SPTSX	$ 100.00	$ 113.73	$ 92.19	$ 115.61	$ 120.83	$ 145.88
S&P 600 Building Products Index	SML	$ 100.00	$ 108.78	$ 83.65	$ 99.55	$ 120.04	$ 140.93

Recent Sales of Unregistered Securities; Issuer's Purchases of Equity Securities

None.

Item 6. [Reserved]

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

You should read the following discussion and analysis of our financial condition and results of operations for the fiscal years ended December 31, 2021 and 2020 together with our consolidated financial statements and related notes and other financial information appearing in this Annual Report. The discussion contains forward-looking statements reflecting our current expectations and estimates and assumptions concerning events and financial trends that may effect our future operating results or financial position. Actual results and the timing of events may differ materially from those contained in these forward-looking statements due to a number of factors, including those described under the headings "Risk Factors" and "Special Note Cautionary Statement Regarding Forward Looking Statements" appearing elsewhere in the Annual Report.

Overview

We are an innovative manufacturing company featuring proprietary software and virtual reality visualization platform, coupled with vertically integrated manufacturing that designs, configures and manufactures prefabricated interior solutions used primarily in non-residential spaces across a wide range of industries and businesses. We combine innovative product design with our industry-leading, proprietary ICE Software, and technology-driven, lean manufacturing practices and sustainable materials to provide end-to-end solutions for the traditionally inefficient and fragmented interior construction industry. We create customized interiors with aesthetics of conventional construction but with greater schedule and cost certainty, shorter lead times, greater future flexibility, and better environmental sustainability than conventional construction.

Our ICE Software allows us to sell, design, visualize (including 3D virtual reality modeling of interiors), configure, price, communicate, engineer, specify, order and manage projects, thereby reducing challenges associated with traditional construction, including cost overruns, change orders, inconsistent quality, delays and material waste. While other software programs and virtual reality tools are used in the architectural and construction industries, our ICE Software is the only interior construction technology that provides end-to-end integration, from design through order engineering, manufacturing and installation. Our interior construction solutions include prefabricated, customized interior modular walls, ceilings, and floors; decorative and functional millwork; power infrastructure; network infrastructure; and pre-installed medical gas piping systems. We strive to incorporate environmentally sustainable materials and reusable components into our solutions while creating flexible, functional and well-designed environments for the people who will use them.

We offer our interior construction solutions throughout the United States and Canada through a network of independent Distribution Partners and an internal sales team. Our Distribution Partners use ICE to work with stakeholders, including end users, to envision and design their spaces, and orders are electronically routed through ICE to our manufacturing facilities for production, packing and shipping. Our Distribution Partners then coordinate the receipt and installations of our interior solutions at the end users' locations.

Summary of Financial Results

- Revenues for the year ended December 31, 2021 were $147.6 million, a decline of $23.9 million or 14% from $171.5 million for the year ended December 31, 2020. We believe this decrease principally reflects the severe economic and social impact of the COVID-19 pandemic since March 2020, including a major contraction in construction activity levels in North America due to non-essential business closures, work-from-home requirements, lock-down measures and other regulatory responses implemented by governments and public health officials. The majority of the decrease was incurred in the first quarter of 2021 when the full impact of the contraction in construction activity was experienced and with most of our pre-pandemic projects in process completed in 2020. Additionally, in the third quarter of 2021, a resurgence of COVID-19 infections due to the Delta variant delayed return to work plans, customer investment decisions and associated construction activities.
- Gross profit for the year ended December 31, 2021 was $23.5 million or 15.9% of revenue, a decline of $29.8 million or 56% from $53.3 million or 31.1% of revenue for the year ended December 31, 2020. The decrease largely reflects lower revenue levels, significant inflationary increases in the realized cost of materials, transportation and packaging, negative fixed cost leverage and under-utilized labor capacity, incremental fixed costs of our new South Carolina Facility and the impact of a stronger Canadian dollar. Of the 15.2% difference in gross profit as a percentage of revenue in 2021 versus 2020, approximately 6% is due to higher material, transportation and packaging costs, 2% is due to negative fixed cost leverage, 2% is due to the incremental South Carolina facility fixed costs, and 2% is due to a stronger Canadian dollar with the balance related to inherent labor inefficiency at lower revenue levels and reduced timber provision reversals.
- On October 12, 2021 we announced an approximate 6.5% overall increase in our product and transportation prices effective on new orders subsequent to November 15, 2021 to offset these increased materials, transportation and packaging costs, the benefits of which are expected to be largely realized in 2022.

- Adjusted Gross Profit and Adjusted Gross Profit Margin (see "Non-GAAP Financial Measures") for the year ended December 31, 2021 was $34.0 million or 23.1%, respectively, a decrease from $63.4 million or 37.0%, respectively, for the year ended December 31, 2020, due to the reasons described above. Excluded from Adjusted Gross Profit for the year ended December 31, 2021 and 2020 are $1.8 million and $2.0 million, respectively, of overhead costs associated with operating at lower than normal capacity levels, which were charged directly and separately to cost of sales rather than as a cost attributable to production.
- Net loss for the year ended December 31, 2021 was $53.7 million compared to $11.3 million for the year ended December 31, 2020. The higher net loss is primarily the result of the above noted reduction in gross profit, a $10.8 million increase in operating expenses, explained below, a $2.8 million increase in interest expense and a $1.3 million decrease of government subsidies. These decreases were partially offset by a $2.3 million reduction in income tax expense and a $0.2 million decrease in foreign exchange losses.
- Operating expenses increased by $10.8 million to $85.4 million in 2021 from $74.6 million in 2020. This increase is largely due to an estimated $2.7 million impact of a stronger Canadian dollar on Canadian-based operating expenses, $2.4 million of increased stock based compensation costs, $2.1 million of incremental depreciation, primarily from our new and renovated DXCs, $1.4 million of goodwill impairment charges, $0.9 million of incremental professional fees, higher salary and wage expenses as we continue to build our sales organization, and increased travel, meals and entertainment costs due to easing of COVID-19 restrictions. These increases in operating costs were partially offset by $2.5 million of lower commissions on reduced sales activities. Additionally, in 2020 operating expenses included a $1.2 million reversal of a provision relating to a claim for severance by one of our former founders and a $0.6 million provision recorded for expected credit losses against our accounts receivable balances, both of which did not re-occur in 2021.
- Adjusted EBITDA (see "– Non-GAAP Financial Measures") for the year ended December 31, 2021 was a $41.3 million loss or (28.0)%, a decline of $34.1 million from a $7.2 million loss or (4.2)% for the year ended December 31, 2020 for the above noted reasons.

Outlook

DIRTT believes there are two very significant changes taking place in the market that it can capitalize on. The first is that organizations are beginning to decisively move forward with planning and implementing 'return to work' strategies. There is a strong need to modify their workspace to accommodate a more flexible environment in the short-term, which in turn could change again over the medium- to long-term as post-pandemic requirements continue to evolve. The second, not related to the pandemic, is one in which many organizations in different sectors are trying to enhance their physical presence in local communities by adopting a single design model that works in multiple jurisdictions. We believe we are well-positioned to capitalize on both trends, but DIRTT needs to modify how it operates to capture these opportunities.

As a result, on January 18, 2022, we announced a change in its leadership, appointing Todd Lillibridge, the Board Chair, as interim chief executive officer and he is expected to serve until a permanent chief executive officer is selected. Mr. Lillibridge has led the implementation of a process that the Board was directing since the summer of 2021 to modify and adapt the Company's strategic plan.

Subsequent to the change in leadership, DIRTT announced several initiatives to better position itself to pursue these market opportunities while simultaneously establishing goals to achieve or exceed break-even profitability through both operational efficiency and improved sales effectiveness in the context of our long-term strategic plan.

We are implementing a master facility plan which will expand aluminum manufacturing in our Calgary and Savannah manufacturing facilities while closing its Phoenix facility. This is expected to result in net headcount reduction of approximately 26 and annualized cost savings of approximately $2.4 million, excluding severance and other one-time costs of approximately $1.7 million, which costs are expected to be incurred in the first half of 2022. We are also expanding capabilities of the South Carolina Facility, which produces chromacoat panels, to add thermofoil panels and back-painted glass production. This enhancement will enable us to significantly cut the shipping time and cost for thermofoil panels to customers located in the East and Midwest regions of the United States, as well to as leverage the fixed cost base of the South Carolina Facility. This expansion is being achieved through the transfer of existing equipment from the Calgary and Phoenix facilities and is not expected to incur any material capital costs. This is the first of several capability enhancements that were envisioned when the South Carolina Facility was launched last year.

After these changes to our manufacturing facilities, we will continue to have manufacturing capacity close to $500 million in annual revenue, sufficient to remain responsive to fluctuations in demand and to accommodate mid-term growth.

The Company is optimizing its order process, which it believes will facilitate a reduction in standby production capacity. DIRTT is changing its standard payment terms to 50% due on shipment, not order. By separating its deposit requirement from the order entry process, management believes the Company can encourage earlier order entry, thereby improving both internal revenue forecasting and production scheduling such that we expect to reduce standby production labor capacity by up to 20%, while continuing to provide certainty in scheduling.

We have finalized an organization-wide restructuring of positions that reduced our salaried headcount by approximately 18%, including the elimination of manufacturing and office positions which, along with other cost reduction initiatives are expected to yield annualized savings of approximately $13 million.

Lastly, the Company is also implementing several initiatives regarding pricing.

- Effective June 1, it will introduce a 5% price increase in response to continued inflation in our material costs;
- Launching new aggressive pricing strategies on its Reflect® and Inspire® lines of glass fronts and applied headwalls, with a view to capturing greater market share in an important entry point into its full solution suite of offerings; and
- Recognizing the considerable value DIRTT adds during the pre-construction stage of projects, particularly within our strategic accounts group, we will begin offering certain of those services for a fee.

These steps are in addition to the following actions taken in the fourth quarter of 2021 to preserve financial liquidity and address inflationary impacts on raw materials and transportation and the effects of that year's sales softness on our financial position.

- A price increase on our interior solutions and an adjustment to our freight charges, effective November 16, 2021, resulting in an overall increase of approximately 6.5%;
- The successful completion of an offering of C$35.0 million (approximately $25.6 million net) aggregate principal amount of 6.25% convertible unsecured subordinated debentures due 2026; and
- A reduction in 2022 planned capital expenditures to approximately $7.0 million from $14.1 million in 2021 reflecting the successful completion of our Dallas DXC and our South Carolina Facility. Our 2022 capital expenditure program is comprised of approximately $2.5 million related to refreshes of DXCs, continued enhancement of our customer relationship management system and website redesign, approximately $2.5 million on software development and approximately $2.0 million on manufacturing and other capital upgrades.

Building on the transformative work that has been implemented to date in our commercial function, in 2022 we are focused on improving our overall sales effectiveness by adopting a more strategic sales focus on our core, innovative products which deliver higher margins, and which continue to provide clients design freedom, and certainty in cost, schedule, and outcomes.

Our partners have been and remain a key element in our go-to-market strategy. Enhancing both partner effectiveness and accountability will be a priority in 2022. This includes improving the geographic and capability coverage of our partner network through recruitment of new partners, including those with general contracting construction experience, clarifying roles and responsibilities to reduce duplication of effort and improve overall efficiency, and simplifying the sales process through an increased emphasis on core product sales. Our partners are a direct conduit to many of our end customers and we commenced establishing a partner council to elevate partner feedback within our organization and provide further insight to support our commercial and operational decision making.

Strategic accounts are a cornerstone in our strategy to drive long-term sustainable and predictable growth. These types of clients manage large real estate footprints in numerous locations. For these clients it is advantageous and important to establish consistency in design and execution, repeatability, and speed to market. While these relationships can take time to develop, once they are established, the time and resources required to execute additional projects is reduced, creating profitable, predictable revenue streams. In return, clients benefit from a single point of accountability at DIRTT, a strong North American network of partners, full lifecycle support from established design standards and pre-construction expert support for their architects, designers and general contractors to field work and post installation support. At year end, relationships in development with this group expanded to 55. Of those relationships, we delivered projects in 2021 for 28 and we have identified project opportunities for 42 in 2022. Over half of these are in healthcare and financial services industries. We will monitor both the expansion of relationships in development and the number of projects for these clients as a measure of our success.

We intend to continue to invest to advance our capabilities in strategic marketing. These efforts include maturing and evolving our presence in the market from being champions of our own disruptive concept to being enablers of others' innovation and growth.

The focus is on strengthening our voice in the customer with the architect and design community and driving brand awareness. We plan to launch a refined brand identity later this year that better demonstrates our improved offering and capabilities.

We are budgeting for annual 2022 revenue of between $170 and $180 million for 2022, based on our product and transportation project pipeline for 2022 at January 1, 2022 of $302 million at a conversion rate of 55%, which is consistent with historical ranges and represents an estimated 20% increase in revenues over 2021 pandemic impacted levels. While this 12-month forward pipeline increased by 8% at January 1, 2022 compared to January 1, 2021, the quality of the pipeline has improved in 2022.

The distribution of our current pipeline among our verticals of commercial, healthcare, education and government is 62%, 17%, 12% and 9%, respectively and is generally consistent with prior years. We anticipate first quarter 2022 revenues will be between $38 million and $42 million compared to first quarter 2021 revenues of $29.5 million.

Based on budgeted annual revenue levels, taking into account the initiatives previously described and excluding our related one-time restructuring costs and expected incremental professional fees, (1) we believe that our annual Adjusted EBITDA loss and net loss will demonstrate a significant improvement from 2021 levels, (2) we believe we will shift to positive Adjusted EBITDA in 2023, with a corresponding decrease in net loss, due to both the improved sales focus and operational efficiencies described above, and assuming an improved macroeconomic environment as the pandemic recovery takes hold. Nevertheless, we no longer believe that the financial targets we initially articulated in November 2019 are achievable by the end of 2023.

Non-GAAP Financial Measures

Note Regarding Use of Non-GAAP Financial Measures

Our consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP"). These GAAP financial statements include non-cash charges and other charges and benefits that we believe are unusual or infrequent in nature or that we believe may make comparisons to our prior or future performance difficult.

As a result, we also provide financial information in this Annual Report that is not prepared in accordance with GAAP and should not be considered as an alternative to the information prepared in accordance with GAAP. Management uses these non-GAAP financial measures in its review and evaluation of the financial performance of the Company. We believe that these non-GAAP financial measures also provide additional insight to investors and securities analysts as supplemental information to our GAAP results and as a basis to compare our financial performance period-over-period and to compare our financial performance with that of other companies. We believe that these non-GAAP financial measures facilitate comparisons of our core operating results from period to period and to other companies by removing the effects of our capital structure (net interest income on cash deposits, interest expense on outstanding debt and debt facilities, or foreign exchange movements), asset base (depreciation and amortization), the impact of under-utilized capacity on gross profit, tax consequences and stock-based compensation. We remove the impact of all foreign exchange from Adjusted EBITDA. Foreign exchange gains and losses can vary significantly period-to-period due to the impact of changes in the U.S. and Canadian dollar exchange rates on foreign currency denominated monetary items on the balance sheet and are not reflective of the underlying operations of the Company. We remove the impact of under-utilized capacity from gross profit, and fixed production overheads are allocated to inventory on the basis of normal capacity of the production facilities. In periods where production levels are abnormally low, unallocated overheads are recognized as an expense in the period in which they are incurred. In addition, management bases certain forward-looking estimates and budgets on non-GAAP financial measures, primarily Adjusted EBITDA.

Government subsidies, depreciation and amortization, stock-based compensation expense, foreign exchange gains and losses and impairment expenses are excluded from our non-GAAP financial measures because management considers them to be outside of the Company's core operating results, even though some of those receipts and expenses may recur, and because management believes that each of these items can distort the trends associated with the Company's ongoing performance. We believe that excluding these receipts and expenses provides investors and management with greater visibility to the underlying performance of the business operations, enhances consistency and comparativeness with results in prior periods that do not, or future periods that may not, include such items, and facilitates comparison with the results of other companies in our industry.

The following non-GAAP financial measures are presented in this Annual Report, and a description of the calculation for each measure is included.

Adjusted Gross Profit	Gross profit before deductions for costs of under-utilized capacity, depreciation and amortization
Adjusted Gross Profit Margin	Adjusted Gross Profit divided by revenue

EBITDA	Net income before interest, taxes, depreciation and amortization
Adjusted EBITDA	EBITDA adjusted to remove foreign exchange gains or losses; impairment expenses; stock-based compensation expense; government subsidies; and any other non-core gains or losses
Adjusted EBITDA Margin	Adjusted EBITDA divided by revenue

You should carefully evaluate these non-GAAP financial measures, the adjustments included in them, and the reasons we consider them appropriate for analysis supplemental to our GAAP information. Each of these non-GAAP financial measures has important limitations as an analytical tool due to exclusion of some but not all items that affect the most directly comparable GAAP financial measures. You should not consider any of these non-GAAP financial measures in isolation or as substitutes for an analysis of our results as reported under GAAP. You should also be aware that we may recognize income or incur expenses in the future that are the same as, or similar to, some of the adjustments in these non-GAAP financial measures. Because these non-GAAP financial measures may be defined differently by other companies in our industry, our definitions of these non-GAAP financial measures may not be comparable to similarly titled measures of other companies, thereby diminishing their utility.

Results of Operations

Year Ended December 31, 2021 Compared to the Year Ended December 31, 2020

	For the Year Ended December 31,		
	2021	**2020**	**% Change**
		($ in thousands)	
Revenue	147,593	171,507	(14)
Gross Profit	23,460	53,283	(56)
Gross Profit Margin	15.9%	31.1%	
Operating Expenses			
Sales and Marketing	31,041	28,049	11
General and Administrative	30,595	26,663	15
Operations Support	9,372	9,381	-
Technology and Development	8,234	8,111	2
Stock-based Compensation	4,713	2,351	100
Goodwill Impairment	1,443	-	N/A
Total Operating Expenses	**85,398**	**74,555**	**15**
Operating Loss	**(61,938)**	**(21,272)**	**191**
Operating Margin	**(42.0)%**	**(12.4)%**	

Revenue

The following table sets forth the contribution to revenue of our DIRTT Solutions and related offerings.

	For the Year Ended December 31,		
	2021	**2020**	**% Change**
		($ in thousands)	
Product	129,031	150,004	(14)
Transportation	13,231	15,491	(15)
License fees from Distribution Partners	738	1,194	(38)
Total product revenue	**143,000**	**166,689**	**(14)**
Installation and other services	4,593	4,818	(5)
	147,593	**171,507**	**(14)**

Our sales activity and associated revenues continue to be impacted by the severe economic and social impact of the COVID-19 pandemic since March 2020, including a major contraction in construction activity levels in North America due to work-from-home requirements, lock-down measures and other regulatory responses implemented by governments and public health officials. While we did not experience any material cancellations of projects that were underway at the start of the COVID-19 pandemic, it is uncertain as to the impact of the pandemic, including effects of resurgent infection rates due to variants, on future projects that are either in the planning or conceptual stage. It is highly likely that future projects will also experience similar delays as the COVID-19 pandemic runs its course. See Item 1A. "Risk Factors".

Revenue decreased in the year ended December 31, 2021 by $23.9 million or 14% compared to 2020. The majority of the decrease was incurred in the first quarter of 2021 when the full impact of the contraction in construction activity was experienced as most of the pre-pandemic projects in process were completed in 2020, and a resurgence of COVID-19 infections due to the Delta variant delayed return to work plans, customer investment decisions and associated construction activity.

Throughout 2020, we were able to partially mitigate the COVID-19 induced slowdown in overall construction activity through the completion of projects that were in progress when the pandemic started. With most of these projects delivered by the end of the fourth quarter of 2020, the first quarter of 2021 was the low point for sales and represents $11.5 million of the year over year decrease, reflecting the full impact of the slowdown in non-residential construction activity on DIRTT's business. Second quarter 2021 revenues returned to 2020 levels, driven largely by increased activity with a large strategic health care provider and the delivery of COVID-19 vaccination trailers. Third quarter 2021 revenues, which started out consistent with 2020 levels, were adversely impacted by a combination of a resurgence in COVID-19 infection rates in late August and September 2021 due to the Delta variant and upstream supply chain issues, resulting in a $12.1 million decrease in year over year revenues. Fourth quarter 2021 revenues of $42.9 million returned to 2020 levels, including three significant projects in the banking sector and a large government project.

We have made substantial improvements to our commercial function, as outlined in our strategic plan, including building an appropriate organizational structure, improving the effectiveness of our existing sales force, attracting new sales talent, establishing strategic marketing and lead generation functions, as well as expanding and better supporting our Distribution Partner network. While we believe these actions are critical to driving long-term, sustainable growth, particularly as the recovery from the COVID-19 pandemic commences, these actions did not have a measurable effect on 2021 revenues in light of the severe economic adversity caused by the pandemic. Additionally, in response to significant increases in the costs of raw materials, shipping materials and freight, effective November 16, 2021, DIRTT increased product and transportation prices on new projects by approximately 6.5%, with the benefits largely expected to be realized in 2022.

Installation and other services revenue was $4.6 million for the year ended December 31, 2021 compared to $4.8 million in 2020. The changes in installation and other services revenue are primarily due to the timing of projects. Except in limited circumstances, our Distribution Partners, rather than the Company, perform installation services, and accordingly, we are not anticipating significant growth in this revenue stream.

Our success is partly dependent on our ability to profitably develop our Distribution Partner network to expand our market penetration and ensure best practices are shared across local markets. At December 31, 2021, we had 69 Distribution Partners servicing multiple locations. During 2020 and 2021, we made several changes and upgrades to our Distribution Partner network, expanding our relationships with new and existing partners and ending our relationships with others. Our clients, as serviced primarily through our Distribution Partners, exist within a variety of industries, including healthcare, education, financial services, government and military, manufacturing, non-profit, energy, professional services, retail, technology and hospitality.

We periodically analyze our revenue growth by vertical markets in the defined markets of commercial, healthcare, government and education. The following table presents our product and transportation revenue by vertical market.

	For the Year Ended December 31,		
	2021	2020	% Change
		($ in thousands)	
Commercial	84,488	102,245	(17)
Healthcare	30,130	35,400	(15)
Government	16,012	14,128	13
Education	11,632	13,722	(15)
License fees from Distribution Partners	738	1,194	(38)
Total product revenue	**143,000**	**166,689**	**(14)**
Service revenue	4,593	4,818	(5)
	147,593	**171,507**	**(14)**

	For the Year Ended December 31,	
	2021	2020
	(in %)	
Commercial	60	63
Healthcare	21	21
Government	11	8
Education	8	8
Total Product Revenue[(1)]	**100**	**100**

(1) Excludes license fees from Distribution Partners.

Revenue decreased in the year ended December 31, 2021 by 14% compared to the year ended December 31, 2020 and was driven primarily by the full impact of the COVID-19 induced slowdown in non-residential construction activity experienced beginning in the first quarter of 2021 and by ongoing upstream supply chain issues on overall construction schedules. Commercial revenues decreased by 17% from the prior year, due largely to the severe impact of COVID-19 on commercial construction activities in North America since March 2020, particularly in the first and third quarters of 2021 as described in more detail above. Healthcare sales tend to be larger individual projects and are subject to timing due to a typically longer sales cycle, resulting in variability in sales levels. In 2021, healthcare sales were 15% lower, respectively, due primarily to the timing of projects with the 2020 period including two large projects of approximately $4.0 million each that did not re-occur in 2021. Education sales in 2021 decreased by 15% over the prior period. At the beginning of the pandemic, education spending effectively paused with many institutions suspending in-person classes. Government revenues increased due to the timing of certain projects.

Revenue continues to be derived almost exclusively from projects in North America and predominantly from the United States. The following table presents our revenue dispersion by geography:

	For the Year Ended December 31,		
	2021	2020	% Change
	($ in thousands)		
Canada	17,299	18,848	(8)
U.S.	130,294	152,659	(15)
	147,593	**171,507**	**(14)**

Historically, approximately 15-25% and 75-85% of revenues are derived from sales to Canada and the United States, respectively. In 2020 and 2021, revenues from Canada fell to 11% and 12%, respectively, of total sales while sales to the United States increased to 89% and 88%, respectively, of total sales. COVID-19 infection rates and resulting regulatory responses by governments and public health officials have varied significantly by region, impacting the relative contribution of sales from each country.

Sales and Marketing Expenses

Sales and marketing expenses increased by $3.0 million to $31.0 million for the year ended December 31, 2021 from $28.0 million for the year ended December 31, 2020. The increases were largely related to increased salary and wage expenses as we continue to build our sales organization, higher depreciation and operating expenses as we completed our Chicago and Dallas DXCs in 2020 and 2021, respectively, and increased travel, meals and entertainment as restrictions on travel have eased. As economies re-open, we anticipate travel, meals and entertainment expenses will increase over current levels, the timing and amount of such expenses, however, are indeterminate at this time. These increases were partially offset by lower commission expense.

Our sales and marketing efforts are focused on establishing the appropriate sales organization and personnel, significantly improving our marketing approach and driving returns on sales and marketing expenditures, as outlined in our strategic plan. In light of uncertainty caused by the COVID-19 pandemic, we have prioritized critical hires that are necessary to continue to advance our overall strategy, including the implementation of necessary systems and tools while ensuring appropriate cost control and cash conservation.

General and Administrative Expenses

General and administrative (“G&A”) expenses increased $3.9 million to $30.6 million for the year ended December 31, 2021 from $26.7 million for the year ended December 31, 2020. The increase was due to higher salaries, benefits and severance costs and $0.9 million of incremental professional fees. In addition, the year ended December 31, 2020 included a $1.2 million reversal of a provision relating to a claim for severance by one of our former founders and a $0.6 million credit loss, both of which were not repeated in 2021.

Operations Support Expenses

Operations support is comprised primarily of project managers, order entry and other professionals that facilitate the integration of our Distribution Partner project execution and our manufacturing operations. Operations support expenses of $9.4 million were consistent with 2020.

Technology and Development Expenses

Technology and development expenses relate to non-capitalizable costs associated with our product and software development teams and are primarily comprised of salaries and benefits of technical staff.

Technology and development expenses increased by $0.1 million to $8.2 million for the year ended December 31, 2021, compared to $8.1 million for the year ended December 31, 2020, primarily related to a decrease in capitalized software development costs offset by lower variable compensation provision and other burdens in the current year.

Stock-Based Compensation

Stock-based compensation expense for the year ended December 31, 2021 was $4.7 million compared to $2.4 million in 2020. The increase was largely due to grants of restricted share units and deferred share units, lowered by the impact of fair value adjustments on cash settled awards as a result of our share price decreasing during the year ended December 31, 2021.

Goodwill Impairment

Goodwill impairment expense for the year ended December 31, 2021 was $1.4 million compared to $nil in 2020. We test goodwill for impairment annually during the fourth quarter of the calendar year. Due to the ongoing impact of the COVID-19 pandemic on our financial results in 2021, we determined it was necessary to use the quantitative approach to perform our goodwill impairment test. Based on our testing, the fair value of goodwill did not exceed the carrying value of its net assets and, accordingly, the entire $1.4 million balance of goodwill was impaired as at December 31, 2021.

Government Subsidies

Government subsidies for the year ended December 31, 2021 was $11.5 million compared to $12.7 million for the same period of 2020 and all amounts were fully collected at December 31, 2021.

As part of the Canadian federal government's COVID-19 Economic Response Plan, the Canadian government established the Canada Emergency Wage Subsidy ("CEWS"), providing employers with a taxable subsidy in respect of a specific portion of wages paid to Canadian employees during qualifying periods extending from March 15, 2020 to October 23, 2021, based on the percentage decline of certain Canadian-sourced revenues during each qualifying period. The Company's eligibility for the CEWS was subject to change for each qualifying period and was reviewed by the Company for each qualifying period, with amounts being received for various, but not each, qualifying period. Pursuant to amendments enacted as part of the 2021 Canadian federal budget, the Company may be required to repay all or a portion of the CEWS amounts for any qualifying period commencing after June 5, 2021 where the aggregate compensation for "specified executives" (within the meaning of the CEWS) during the 2021 calendar year exceeds the aggregate compensation for "specified executives" during the 2019 calendar year. On November 19, 2020, the Canadian government also implemented the Canada Emergency Rent Subsidy ("CERS"), which provided a taxable subsidy to cover eligible expenses for qualifying properties, subject to certain maximums, for qualifying periods extending from September 27, 2020 to October 23, 2021, with the amount of the subsidy available to the Company being based on the percentage decline of certain of the Company's Canadian-sourced revenues in each qualifying period. The Company's eligibility for the CERS was subject to change for each qualifying period and was reviewed by the Company for each qualifying period. The CEWS and CERS programs expired on October 23, 2021.

Income Tax

The provision for income taxes is comprised of U.S. and Canadian federal, state and provincial taxes based on pre-tax income. Income tax recovery for the year ended December 31, 2021 was $0.2 million, compared to a $2.1 million expense for the same period of 2020. For the year ended December 31, 2021, the Company recorded valuation allowances of $12.0 million (2020 - $5.2 million) against deferred tax assets due to ongoing near term uncertainties on the business caused by the COVID-19 pandemic and the related decline in business activity which impacted our ability to generate sufficient taxable income in Canada and the United States to fully deduct historical losses. As at December 31, 2021, we had C$65.0 million of loss carry-forwards in Canada and $42.2 million in the United States. These loss carry-forwards will begin to expire in 2032.

Net Loss

Net loss increased to $53.7 million or $0.63 net loss per share in the year ended December 31, 2021 from a net loss of $11.3 million or $0.13 net loss per share for the year ended December 31, 2020. The increased loss is primarily the result of a $29.8 million decrease in gross profit, a $10.8 million increase in operating expenses, a $2.8 million increase in interest expense as a result of the convertible unsecured subordinated debentures issued on January 25, 2021 and December 1, 2021 (collectively, the "Debentures") and draws on the Leasing Facilities (as defined below) and a $1.3 million decrease in government subsidies. These decreases were partially offset by a $2.3 million decrease in income tax expense and a $0.2 million decrease in foreign exchange losses.

EBITDA and Adjusted EBITDA for the Years Ended December 31, 2021, 2020 and 2019

The following table presents a reconciliation for the year-to-date results of 2021, 2020 and 2019 of EBITDA and Adjusted EBITDA to our net loss, which is the most directly comparable GAAP measure for the years presented:

	For the Year Ended December 31,		
	2021	2020	2019
	($ in thousands)		
Net loss for the year	(53,668)	(11,298)	(4,396)
Add back (deduct):			
Interest Expense	3,131	305	131
Interest Income	(77)	(238)	(529)
Income Tax Expense (Recovery)	(204)	2,104	1,019
Depreciation and Amortization	14,513	11,706	12,242
EBITDA	**(36,305)**	**2,579**	**8,467**
Foreign Exchange Losses	335	576	1,324
Stock-based Compensation	4,713	2,351	3,876
Government Subsidies	(11,455)	(12,721)	-
Goodwill Impairment	1,443	-	-
Reorganization Expense	-	-	4,560
Adjusted EBITDA	**(41,269)**	**(7,215)**	**18,227**
Net Loss Margin(1)	**(36.4)%**	**(6.6)%**	**(1.8)%**
Adjusted EBITDA Margin	**(28.0)%**	**(4.2)%**	**7.4%**

(1) Net loss divided by revenue.

For the year ended December 31, 2021, Adjusted EBITDA and Adjusted EBITDA Margin decreased by $34.1 million to a $41.3 million loss or (28.0)% from $7.2 million loss or (4.2)% in the same period of 2020. This reflects a $29.4 million decrease in Adjusted Gross Profit and $0.3 million in lower costs of underutilized capacity, discussed below, higher salary and wage expenses reflecting the cumulative effect of hires in line with our strategic plan, $0.9 million of incremental professional fees, as well as the estimated $2.7 million impact of a stronger Canadian dollar on Canadian-based operating expenses, excluding depreciation and stock-based compensation. Reductions in Adjusted EBITDA were partially offset by $2.5 million of lower commissions. Additionally, in 2020 operating expenses benefited from a $1.2 million reversal of a provision relating to a claim for severance by one of our former founders and lower costs as a result of reduced activity due to COVID-19, offset by a $0.6 million provision recorded for expected credit losses against our accounts receivable balances, which did not re-occur in 2021.

Adjusted Gross Profit and Adjusted Gross Profit Margin for the Years Ended December 31, 2021, 2020 and 2019

The following table presents a reconciliation for the years ended December 31, 2021, 2020, and 2019 of Adjusted Gross Profit to our gross profit, which is the most directly comparable GAAP measure for the periods presented:

	For the Year Ended December 31,		
	2021	2020	2019
	($ in thousands)		
Gross profit	23,460	53,283	86,424
Gross profit margin	15.9%	31.1%	34.9%
Add: Depreciation and amortization expense	8,808	8,110	9,195
Add: Costs of under-utilized capacity	1,756	2,010	2,240
Adjusted Gross Profit	**34,024**	**63,403**	**97,859**
Adjusted Gross Profit Margin	**23.1%**	**37.0%**	**39.5%**

Gross profit and gross profit margin decreased to $23.5 million or 15.9% for the year ended December 31, 2021, from $53.3 million or 31.1% for the year ended December 31, 2020. Adjusted Gross Profit and Adjusted Gross Profit Margin decreased to $34.0 million or 23.1% for the year ended December 31, 2021, from $63.4 million or 37.0% for the year ended December 31, 2020.

The decrease largely reflects lower revenue levels, significant inflationary increases in the realized cost of materials, transportation and packaging, negative fixed cost leverage and under-utilized labor capacity, incremental fixed costs of our new South Carolina Facility and the impact of a stronger Canadian dollar. Of the 15.2% difference in gross profit as a percentage of revenue in 2021 versus 2020, approximately 6% is due to higher material, transportation and packaging costs, 2% is due to negative fixed cost leverage, 2% is due to the incremental South Carolina Facility fixed costs, and 2% is due to a stronger Canadian dollar with the balance related to inherent labor inefficiency at lower revenue levels and reduced timber provision reversals. The decrease was largely due to the impact of fixed costs on lower revenues.

Like many other industries, we experienced a significant increase in the cost of raw materials, transportation and packaging, largely driven by the effects of the pandemic with much of the increases experienced in the second half of 2021. As previously discussed and in response, effective November 16, 2021, we increased prices on new orders by approximately 6.5% to effectively offset these cost increases, with the benefits largely expected to be realized in 2022. We expect such inflationary pressures to continue into 2022 and accordingly announced a further 5% price increase on February 17, 2022, effective June 1, 2022.

Approximately $28.3 million of our annual costs are fixed, related primarily to rent, utilities and other production overhead costs including $2.7 million of incremental costs related to our new South Carolina Facility. Furthermore, at these revenue levels our manufacturing workforce, which would normally be variable, is effectively fixed. We have reduced our manufacturing workforce by 31% since December 31, 2019, not including the net headcount reductions announced on February 22, 2022, while ensuring we can deliver to our customer lead times given inter-week variability in production volumes.

A stronger Canadian dollar on Canadian-based manufacturing costs negatively impacted gross margin by approximately $2.5 million. The year ended December 31, 2021 included a $0.5 million reversal of a timber provision compared to a $1.8 million reversal in the year ended December 31, 2020, discussed further below.

During the fourth quarter of 2019, we determined that we were carrying abnormal excess capacity in our manufacturing facilities as a result of the slowdown in sales and determined certain production overheads should be directly expensed in cost of sales, representing production overheads that were not attributable to production. In the first quarter of 2020, we separately classified $2.0 million as costs related to our under-utilized capacity (1.2% of 2020 annual gross profit margin) in cost of sales. We took steps to manage our excess capacity, including the reduction in staffing by 14%, with a further 12% reduction in April 2020 for a total reduction of 25% from prior year levels, and the undertaking of planned factory curtailments. The staffing reductions realigned our capacity with expected activity levels; however, our fixed costs continued to affect our Adjusted Gross Profit Margin, which we expect to remain below historical percentages until sales improve. In the first quarter of 2021, we experienced the full impact of the slowdown in non-residential construction activity on our business. In anticipation of a recovery in demand for our products and services and to preserve our skilled workforce, we deliberately maintained manufacturing headcount, while implementing selective furlough days, in the first quarter of 2021 despite the shortfall in revenues relative to capacity. As a result, in the first quarter of 2021 we separately classified $1.8 million as costs related to our under-utilized capacity (1.2% of 2021 annual gross profit margin) in cost of sales. For the remaining quarters of 2021, we did not have abnormal excess capacity as our workforce was better aligned with current production volumes.

Following the completion of third party testing in 2019, we determined that timber included in certain projects installed between 2016 and 2019 potentially did not meet the fire-retardant specifications under which the projects were sold. As a result, we recorded a $2.5 million provision in the fourth quarter of 2019 and began contacting customers to determine whether remedial actions were required. In the second quarter of 2020, we identified and validated an in-situ solution that we believe will meet the fire-retardant specification under which the projects were sold and accordingly reduced the associated provision to $1.3 million, which represents expected costs to prepare impacted sites and apply the in-situ solution. In the third quarter of 2020, we completed building code reviews of the affected projects and determined that the timber as installed met the requisite building code requirements as it related to fire retardance. As a result, we further reduced our timber provision by $0.5 million in the third quarter of 2020 as we believe this reduced any obligation to remediate previously installed projects. Additionally, we entered into agreements with certain customers to compensate them for product charges not fulfilled. During the year ended December 31, 2021, we incurred no costs (2020 – $0.1 million) associated with remediating previously installed timber projects and we reduced our provision by a further $0.5 million to a remaining balance of $0.1 million given limited take-up by our customers to remediate these identified projects.

Year Ended December 31, 2020 Compared to the Year Ended December 31, 2019

Discussion and analysis of our financial condition and results of operations for the fiscal year ended December 31, 2020 compared to the fiscal year ended December 31, 2019 is included under the heading Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations," in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020, as filed with the SEC and applicable securities commissions or similar regulatory authorities in Canada on February 24, 2021.

Liquidity and Capital Resources

Cash and cash equivalents at December 31, 2021 totaled $60.3 million, an increase of $14.5 million from December 31, 2020. The change in cash primarily reflects the impact of $55.1 million of net proceeds from the issuance of the Debentures and $9.8 million of drawings under our Leasing Facilities (as defined below), less scheduled Leasing Facilities repayments of $1.8 million, offset by cash used in operations of $31.2 million, capital expenditures of $14.6 million and the restriction of $3.1 million of cash under the terms of our senior secured credit facility.

In January 2021, we issued C$40.3 million of convertible debentures for net proceeds after costs of C$37.6 million ($29.5 million). These convertible debentures accrue interest at a rate of 6.00% per annum and are convertible into common shares of DIRTT at an exercise price of C$4.65 per common share, or if not converted will mature and be repayable on January 31, 2026. Interest and principal are payable in cash or shares at the option of the Company.

In February 2021, we entered into a loan agreement governing a C$25.0 million senior secured revolving credit facility (the "RBC Facility") with the Royal Bank of Canada ("RBC"). Under the RBC Facility, the "Borrowing Base" is a maximum of 90% of investment grade or insured accounts receivable plus 85% of eligible accounts receivable plus the lesser of 75% of the book value of eligible inventory and 85% of the net orderly liquidation value of eligible inventory less any reserves for potential prior ranking claims. Available borrowings under the RBC Facility at December 31, 2021 were C$13.2 million or $10.4 million.

In December 2021, we issued C$35.0 million of convertible debentures for net proceeds after costs of C$32.7 million ($25.6 million). These convertible debentures accrue interest at a rate of 6.25% per annum and are convertible into common shares of DIRTT at an exercise price of C$4.20 per common share, or if not converted will mature and be repayable on December 31, 2026. Interest and principal are payable in cash or shares at the option of the Company.

The Company has a C$5.0 million equipment leasing facility in Canada (the "Canada Leasing Facility") of which C$3.6 million ($2.6 million) has been drawn, and a $14.0 million equipment leasing facility in the United States (the "U.S. Leasing Facility", and together with the Canada Leasing Facility, the "Leasing Facilities") of which $13.3 million has been drawn with RBC and one of its affiliates. The Leasing Facilities are available for equipment expenditures and certain equipment expenditures already incurred.

In light of the uncertainty caused by the near and potential mid-term impacts of COVID-19, we have evaluated multiple downside scenarios and have implemented cost control and expenditure management processes. While the previously discussed COVID-19 impacts and upstream supply chain issues causing project delays during 2021 resulted in a significant usage of cash reserves, the combination of an improved sales outlook for 2022, our cost optimization activities and our cash reserves and available credit facilities lead us to believe that we have sufficient liquidity for at least the next twelve months. We assess our financial strength on an ongoing basis and may seek additional financing to bolster our balance sheet to mitigate the risk of ongoing delays in sales recovery.

A prolonged and complete cessation of or sustained significant decrease in North American construction activities or a sustained economic depression and its adverse impacts on customer demand could continue to adversely affect our liquidity. To the extent that existing cash and cash equivalents and increased liquidity from the aforementioned facilities are not sufficient to fund future activities, we may seek to raise additional funds through equity or debt financings. If additional funds are raised through the incurrence of indebtedness, such indebtedness may have rights that are senior to holders of our Debentures and our equity securities or contain instruments that may be dilutive to our existing shareholders. Any additional equity or debt financing may be dilutive to our existing shareholders.

Since our inception, we have financed operations primarily through cash flows from operations, long-term debt, and the sale of equity securities. Over the past three years, we have funded our operations and capital expenditures through a combination of cash flow from operations, long-term debt, government subsidies and cash on hand. We had no amounts outstanding under the RBC Facility as of December 31, 2021, $13.9 million outstanding under the Leasing Facilities and $55.1 million of convertible debentures outstanding as of December 31, 2021.

The following table summarizes our consolidated cash flows for the years indicated:

	For the Year Ended December 31,		
	2021	2020	2019
		($ in thousands)	
Net cash flows provided by (used in) operating activities	(31,210)	12,485	13,359
Net cash flows used in investing activities	(14,138)	(19,392)	(15,189)
Net cash provided by (used in) financing activities	62,452	5,724	(5,484)
Effect of foreign exchange on cash, cash equivalents and restricted cash	458	(145)	1,076
Net increase (decrease) in cash, cash equivalents and restricted cash	**17,562**	**(1,328)**	**(6,238)**
Cash, cash equivalents and restricted cash, beginning of period	45,846	47,174	53,412
Cash, cash equivalents and restricted cash, end of period	**63,408**	**45,846**	**47,174**

	For the Year Ended December 31,		
	2021	2020	2019
		($ in thousands)	
Cash and cash equivalents	60,313	45,846	47,174
Restricted cash	3,095	-	-
Total cash, cash equivalents and restricted cash	**63,408**	**45,846**	**47,174**

Operating Activities

Net cash flows used in operating activities were $31.2 million for the year ended December 31, 2021 and $12.5 million provided by operating activities for the year ended December 31, 2020. The decrease in cash flows from operations is largely due to a decrease in gross profit, higher operating costs and higher inventory, partially offset by higher accounts payable and accrued liabilities, a decrease in trade and other receivables and higher customers deposits. For the year ended December 31, 2021, we were eligible for $11.5 million (2020 - $12.7 million) of government subsidies.

Investing Activities

We invested $11.8 million in property, plant and equipment during the year ended December 31, 2021 compared to $16.6 million during the year ended December 31, 2020.

Our investments during the year ended December 31, 2021 included $3.9 million in costs to complete the construction of the South Carolina Facility and $4.6 million of investment in our DXCs, primarily related to our DXC in Plano, Texas. These investments are substantially complete and until pre-COVID revenues return, no new significant capital projects are planned. Maintenance capital expenditures for the year ended December 31, 2021 were $3.3 million, which includes new equipment to complete our transition to one-piece flow manufacturing in our aluminum plants as well as equipment necessary to ensure business continuity in our aluminum plants. We anticipate maintenance capital requirements to be lower in future periods as there are no significant projects ongoing at this time.

During the year ended December 31, 2020, our spending included $9.9 million related to the construction of the South Carolina Facility, $2.9 million on our Chicago DXC, $0.5 million on development of our new Dallas DXC and $3.3 million of maintenance capital.

Software development and capitalized patent costs for the year ended December 31, 2021 were $2.8 million compared to $3.5 million for the year ended December 31, 2020. Software development expenditure primarily consists of the capitalization of salaries of our software development team members. We expect the level of expenditure to be consistent with the current year, and any fluctuations will increase or decrease technology and development expenditures on the statement of operations.

Financing Activities

For the year ended December 31, 2021, $62.5 million of cash was provided by financing activities mainly due to the net proceeds received from the issuance of the Debentures in January and December of 2021 of C$37.5 million ($29.5 million) and C$32.7 million ($25.6 million), respectively, and the receipt of $9.8 million of cash consideration under the U.S. Leasing Facility, which was used to finance equipment purchases for our new South Carolina Facility largely paid for in installments in 2019 and 2020. Cash provided by financing activities for the year ended December 31, 2020 was $5.7 million entirely comprised of draws and repayments under the Leasing Facilities.

We currently expect to fund anticipated future investments with available cash, including the proceeds from our issuance of the Debentures and drawings on our Leasing Facilities. Apart from cash flow from operations, issuing equity and debt has been our primary source of capital to date. Additional debt or equity financing may be pursued in the future as we deem appropriate. We may also use debt or pursue equity financing depending on the share price at the time, interest rates, and nature of the investment opportunity and economic climate.

Credit Facility

On February 12, 2021, the Company entered into the RBC Facility. Under the RBC Facility, the Borrowing Base is up to a maximum of 90% of investment grade or insured accounts receivable plus 85% of eligible accounts receivable plus the lesser of 75% of the book value of eligible inventory and 85% of the net orderly liquidation value of eligible inventory less any reserves for potential prior ranking claims. At December 31, 2021, available borrowings are C$13.2 million ($10.4 million), of which no amounts have been drawn. Interest is calculated at the Canadian or U.S. prime rate plus 30 basis points or at the Canadian Dollar Offered Rate or LIBOR plus 155 basis points. Under the RBC Facility, if the "Aggregate Excess Availability", defined as the Borrowing Base less any loan advances or letters of credit or guarantee and if undrawn including unrestricted cash is less than C$5.0 million, the Company is subject to a fixed charge coverage ratio ("FCCR") covenant of 1.10:1 on a trailing twelve month basis. Additionally, if the FCCR has been below 1.10:1 for the three immediately preceding months, the Company is required to maintain a reserve account equal to the aggregate of one year of payments on outstanding loans on the Leasing Facilities. The Company did not meet the three month FCCR requirement during the fourth quarter of 2021, which resulted in requiring the restriction of $3.1 million of cash. Should an event of default occur or the Aggregate Excess Availability be less than C$6.25 million for five consecutive business days, the Company would enter a cash dominion period whereby the Company's bank accounts would be blocked by RBC and daily balances will set-off any borrowings and any remaining amounts made available to the Company.

During 2020, the Company entered into the Leasing Facilities, consisting of the C$5.0 million Canada Leasing Facility and the $14.0 million U.S. Leasing Facility with RBC, which are available for equipment expenditures and certain equipment expenditures already incurred. The Leasing Facilities, respectively, have seven and five-year terms and bear interest at 4.25% and 5.59%. The U.S. Leasing Facility is amortized over a six-year term and is extendible at the Company's option for an additional year.

The Company has drawn $13.3 million of cash consideration under the U.S. Leasing Facility and commenced the lease term in 2020 for the equipment at the South Carolina Facility. The Company has drawn C$3.6 million ($2.6 million) of cash consideration under the Canada Leasing Facility and commenced the lease term for the Canadian equipment expenditures during 2020.

We are restricted from paying dividends unless Payment Conditions (as defined in the RBC Facility) are met, including having a net borrowing availability of at least C$10 million over the proceeding 30-day period, and having a trailing twelve month fixed charge coverage ratio above 1.10:1 and certain other conditions. The RBC Facility is currently secured by substantially all of our real property located in Canada and the United States

Contractual Obligations

The following table summarizes DIRTT's contractual obligations at December 31, 2021:

	Payments due by period				
	Less than 1 year	**1 to 3 years**	**3 to 5 years**	**Greater than 5 years**	**Total**
			($ in thousands)		
Accounts payable and accrued liabilities	22,751	-	-	-	22,751
Other liabilities	2,379	-	-	-	2,379
Customer deposits and deferred revenue	2,420	-	-	-	2,420
Current and long-term portion of long-term debt and accrued interest[1]	6,717	13,434	72,309	157	92,617
Lease liabilities (undiscounted)	6,406	7,901	6,451	28,963	49,721
Purchase obligations	3,732	-	-	-	3,732
Total	**44,405**	**21,335**	**78,760**	**29,120**	**173,620**

(1) Includes principal and interest. See Note 12 to our Consolidated Financial Statements for additional information.

Critical Accounting Policies and Estimates

Our significant accounting policies are described in Note 2 to our Consolidated Financial Statements appearing elsewhere in this Annual Report. Our critical accounting estimates include the areas where we have made what we consider to be particularly difficult, subjective or complex judgments in making estimates, and where these estimates can significantly affect our financial results under different assumptions and conditions. We prepare our financial statements in conformity with GAAP. As a result, we are required to make estimates, judgments and assumptions that we believe are reasonable based upon the information available. These estimates, judgments and assumptions affect the reported amounts of assets and liabilities at the date of the financial statements and reported amounts of revenue and expenses during the periods presented. Actual results could be different from these estimates. Critical estimates and assumptions made by management include:

Estimates of liabilities associated with the potential and amount of warranty, legal claims and other contingencies

We have warranty obligations with respect to manufacturing defects on most of our manufactured products. Warranty periods generally range from one to ten years. We have recorded a reserve for estimated warranty and related costs based on historical experience and periodically adjust these provisions to reflect actual experience. We assess the adequacy of our warranty accrual on a quarterly basis, and adjust the previous amounts recorded, if necessary, to reflect the change in estimate of the future costs of claims yet to be serviced. Typically, product deficiencies requiring our warranty are identified and remediated within a year of production. The following provides information with respect to our warranty accrual. At December 31, 2021 and 2020, we had $1.5 million and $1.8 million, respectively, accrued for warranty and other provisions, and third-party costs associated with remedying deficiencies were $0.8 million during the fiscal year ended December 31, 2021, as compared to $1.8 million during the fiscal year ended December 31, 2020. Following the completion of third-party testing in 2019, we determined that timber included in certain projects installed between 2016 and 2019 potentially did not meet the fire-retardant specifications under which the projects were sold. As a result, we recorded a $2.5 million provision in the fourth quarter of 2019 and have been contacting customers to determine whether remedial actions are required. In the second quarter of 2020, we identified and validated an in-situ solution that we believe will meet the fire-retardant specification under which the projects were sold and reduced the associated provision to $1.3 million, which represents expected costs to prepare impacted sites and apply the in-situ solution. In the third quarter of 2020, we completed building code reviews of the affected projects and determined that the timber as installed met the requisite building code requirements as it related to fire retardance. We further reduced our timber provision by $0.5 million in 2020 as we believe this reduces any obligation to remediate previously installed projects. Additionally, we entered into agreements with certain customers to compensate them for product charges not fulfilled. During the fourth quarter of 2021, we reduced our timber provision by an additional $0.5 million to $1.0 million to reflect our expected remaining obligation.

We establish reserves for estimated legal contingencies when we believe a loss on litigation is probable and the amount of the loss can be reasonably estimated. Revisions to contingent liability reserves are reflected in operations in the period in which there are changes in facts and circumstances that affect our previous assumptions with respect to the likelihood or amount of loss. Reserves for contingent liabilities are based upon our assumptions and estimates regarding the probable outcome of the matter. We estimate the probable cost by evaluating historical precedent as well as the specific facts relating to each contingency (including the opinion of outside advisors). Should the outcome differ from our assumptions and estimates, or other events result in a material adjustment to the accrued estimated reserves, revisions to the estimated reserves for contingent liabilities would be required and would be recognized in the period the new information becomes known. At December 31, 2021 and 2020, we had $0.1 and $0.05 million provided for legal provisions, respectively.

Estimates of useful lives of depreciable assets and the fair value of long-term assets used for impairment calculations

We evaluate the recoverability of our property, plant and equipment (“PP&E”), capitalized software costs and right of use assets when events or changes in circumstances indicate a potential impairment exists. If impairment is indicated, the impairment loss is measured as the amount the assets carrying value exceeds the fair value of the assets.

Our determination of the fair value associated with long-term assets involves significant estimates and assumptions, including those with respect to the determination of asset groups, future cash inflows and outflows, discount rates, and asset lives. In the current year, estimates of cash inflows are dependent on the timing and extent of recovery of the slowdown experienced as a result of the COVID-19 pandemic. These significant estimates require considerable judgment, which could affect our future results if the current estimates of future performance and fair values change.

We estimate the useful lives of PP&E, capitalized software costs and right of use assets based on the period over which the assets are expected to be available for use. The estimated useful lives are reviewed annually and are updated if expectations differ from previous estimates due to physical wear and tear, technical or commercial obsolescence and legal or other limits on the use of the relevant assets. In addition, the estimation of the useful lives of the relevant assets may be based on internal technical evaluation and experience with similar assets. It is possible, however, that future results of operations could be materially affected by changes in the estimates brought about by changes in factors mentioned above. The amounts and timing of recorded expenses for any period would be affected by changes in these factors and circumstances. A reduction in the estimated useful lives of the PP&E and capitalized software assets would increase the recorded expenses and decrease the non-current assets.

We test goodwill for impairment annually during the fourth quarter of the calendar year. Due to the ongoing impact of the COVID-19 pandemic on our financial results in 2021, we determined it was necessary to use the quantitative approach to perform our goodwill impairment test. Based on our testing, the fair value of goodwill did not exceed the carrying value of its net assets and, accordingly, the entire $1.4 million balance of goodwill was impaired as at December 31, 2021.

Estimates of future taxable earnings used to assess the realizable value of deferred tax assets

We use the asset and liability method of accounting for income taxes. Under this method, deferred income tax assets and liabilities arise from temporary differences between the tax bases of assets and liabilities and their carrying amounts reported in the financial statements. Deferred income tax assets also reflect the benefit of unutilized tax losses that can be carried forward to reduce income taxes in future years. Such method requires the exercise of significant judgment in determining whether or not our deferred tax assets are probable of recovery from taxable income of future years and, therefore, can be recognized in the financial statements. Also, estimates are required to determine the expected timing upon which tax assets will be realized and upon which tax liabilities will be settled. We assess the ability to recover our deferred tax assets every quarter and concluded that a valuation allowance was required against our deferred tax assets at December 31, 2021 of $17.3 million (2020 - $5.3 million).

Tax interpretations, regulations and legislation in the various jurisdictions in which the Company and its subsidiaries operate

The determination of our provision for income taxes requires significant judgment, the use of estimates and the interpretation and application of complex tax laws. Our provision for income taxes reflects a combination of income earned and taxed in the various U.S. federal and state, and Canadian federal and provincial, jurisdictions. Jurisdictional tax law changes, increases or decreases in permanent differences between book and tax items, accruals or adjustments of accruals for tax contingencies or valuation allowances, and the change in the mix of earnings from these taxing jurisdictions all affect the overall effective tax rate.

We have no liability for uncertain tax positions. However, should we accrue for such liabilities, when and if they arise in the future, we will recognize interest and penalties associated with uncertain tax positions as part of our income tax provision.

Estimates of the fair value of stock awards, including whether the performance criteria will be met and measurement of the ultimate payout amount

We use a fair-value based approach for measuring stock-based compensation and record compensation expense over an award’s vesting period based on the award’s fair value at the date of grant. Our awards vest based on service conditions, and compensation expense is recognized on a straight-line basis. Stock-based compensation expense is recognized only for those awards that ultimately vest.

Estimates of ability and timeliness of customer payments of accounts receivable

Our expected credit loss reflects reserves for customer receivables to reduce receivables to amounts expected to be collected. Management uses significant judgment in estimating expected credit losses. In estimating the Company’s current estimate of expected credit losses, management considers historical credit loss experience as well as forward- looking information in order to establish rates for each class of financial receivable with similar risk characteristics. While we believe these processes effectively address our exposure for doubtful accounts and credit losses have historically been within expectations, changes in the economy, industry, or specific customer conditions may require adjustments to the expected credit loss. We have a contract with a trade credit insurance provider, whereby a portion of our trade receivables are insured. The trade credit insurance provider determines the coverage amount, if any, on a customer-by-customer basis. Based on our trade receivables balance as at December 31, 2021 and 2020, approximately 90% and 84%, respectively, of that balance was covered by trade credit insurance provider.

At December 31, 2021, we had an allowance for expected credit loss of $0.1 million (2020 - $0.6 million).

Recent Accounting Pronouncements

Please refer to Note 3 to our Consolidated Financial Statements presented elsewhere in this Annual Report.

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

Our financial assets and liabilities consist primarily of cash and cash equivalents, restricted cash, trade and other receivables, long-term deposits and long-term receivables, accounts payable and accrued liabilities, other liabilities, lease liabilities and long-term debt and accrued interest. We are exposed to market, credit and liquidity risks associated with financial assets and liabilities. We currently do not use financial derivatives to reduce exposures from changes in foreign exchange rates, commodity prices, or interest rates. We do not hold or use any derivative instruments for trading or speculative purposes. Our Board has responsibility for the establishment and approval of overall risk management policies, including those related to financial instruments. Management performs continuous assessments to ensure that all significant risks related to financial instruments are reviewed and addressed in light of changes to market conditions and operating activities.

Credit risk

Our principal financial assets are cash and cash equivalents, restricted cash and trade and other receivables.

Our credit risk is primarily concentrated in our trade receivables as we do not believe that we are exposed to any significant credit risk related to our cash and cash equivalents and restricted cash balances. The amounts disclosed in the consolidated balance sheet for trade and other receivables are net of allowances for doubtful accounts. Allowances are provided for the Company's current estimate of all expected credit losses using the lifetime expected credit loss model. In order to manage and assess our risk, management maintains credit policies that include regular review of credit limits of individual receivables and systematic monitoring of aging of trade receivables and the financial wellbeing of our customers. In addition, we acquired trade credit insurance effective April 1, 2020. At December 31, 2021, approximately 90% of our trade accounts receivable are insured, relating to accounts receivables from counterparties deemed creditworthy by the insurer and excluding accounts receivable from government entities, that have arisen since April 1, 2020, when the trade credit insurance became effective. Our trade balances are spread over a broad Distribution Partner base, which is geographically dispersed. No Distribution Partner accounts for greater than 10% of revenue. In addition, and where possible, we collect a 50% deposit on sales, excluding government and certain other clients.

The overall change and uncertainty in the economy as a result of the COVID-19 pandemic had caused us to increase our expectation of credit losses during the first quarter of 2020, and additionally, we believe the COVID-19 pandemic has affected the ability of certain Distribution Partners and other customers to pay amounts owed or owing to DIRTT due to the impact of local shutdowns on businesses in certain markets. During the year ended December 31, 2021, we decreased our provision for expected credit losses by $0.5 million to $0.1 million which was related to an uncollectable amount written off during 2021.

Market risk

Market risk is the risk that changes in market prices, such as interest rates and foreign currency exchange rates, will affect our income or the value of the financial instruments held.

Foreign exchange risk

Historically, the majority (approximately 80% to 88%) of our revenue is collected in U.S. dollars, and approximately 45% of our costs are also incurred in U.S. dollars. Most other revenue and costs are denominated in Canadian dollars. As a result, we are exposed to fluctuations in the U.S. dollar against the Canadian dollar, which could have a positive or negative impact on our revenue and costs. The recent weakening of the U.S. dollar versus the Canadian dollar has had a negative impact on results because reported cost reductions are less than reported revenue reductions.

Our financial instruments are exposed primarily to fluctuations in the Canadian dollar. The following table details our exposure to currency risk at the reporting dates and a sensitivity analysis to changes in currency. The sensitivity analysis includes Canadian dollar-denominated monetary items and adjusts their translation at period end for their respective change in the Canadian dollar. For the respective weakening of the Canadian dollar, there would be an equal and opposite impact on net loss and comprehensive loss.

	Amount (C$ in thousands)	Change in Currency (%)	Effect of net loss and comprehensive loss for the year ended December 31, 2021
Cash and cash equivalents	30,407	10%	3,041
Trade and other receivables	4,402	10%	440
Long-term deposits and long-term receivables	1,723	10%	172
Accounts payable and accrued liabilities	(14,172)	10%	(1,417)
Other liabilities	(1,519)	10%	(152)
Lease liabilities	(5,785)	10%	(579)
Long-term debt and accrued interest	(74,769)	10%	(7,477)
Total	**(59,713)**		**(5,972)**

Commodity price risk

We consume raw materials such as aluminum, hardware, wood and veneer, timber, plastic, electrical wiring and components, paint and powder, and fabric and vinyl. While aluminum represents the largest component of our raw materials' expenditures, overall aluminum spend comprises only approximately 11% of product revenues and, therefore, absolute exposure to price fluctuations has a minimal impact on profitability.

Interest rate risk

On February 2021, we entered into the RBC Facility. The RBC Facility replaced the Previous RBC Facility (as defined below) that was entered into on July 19, 2019 and that had no amounts outstanding at December 31, 2020. An increase in overall interest rates by 0.5% would have increased interest expense related to these items and decreased net loss and comprehensive loss by $nil for 2021 and 2020. An equal decrease in rates would generate an equal amount of interest savings.

The Company's Leasing Facilities and Debentures bear interest at fixed interest rates and are therefore not subject to interest rate risk.

Item 8. Financial Statements and Supplementary Data.

INDEX

	Page No.
Report of Independent Registered Public Accounting Firm (PCAOB ID 271)	44
Consolidated Balance Sheets, as at December 31, 2021 and 2020	45
Consolidated Statements of Operations and Comprehensive Loss for the years ended December 31, 2021, 2020 and 2019	46
Consolidated Statements of Changes in Shareholders' Equity for the years ended December 31, 2021, 2020 and 2019	47
Consolidated Statements of Cash Flows for the years ended December 31, 2021, 2020 and 2019	48
Notes to the Consolidated Financial Statements	49

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of DIRTT Environmental Solutions Ltd.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of DIRTT Environmental Solutions Ltd. and its subsidiaries (together, the Company) as of December 31, 2021 and 2020, and the related consolidated statements of operations and comprehensive loss, changes in shareholders' equity and cash flows for each of the three years in the period ended December 31, 2021, including the related notes (collectively referred to as 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 December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021 in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

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

We conducted our audits of these consolidated financial statements 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. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

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.

/s/ PricewaterhouseCoopers LLP

Chartered Professional Accountants
Calgary, Canada
February 23, 2022

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

PricewaterhouseCoopers LLP
111-5th Avenue SW, Suite 3100, Calgary, Alberta, Canada T2P 5L3
T: +1 403 509 7500, F: +1 403 781 1825

DIRTT Environmental Solutions Ltd.

Consolidated Balance Sheets

(Stated in thousands of U.S. dollars)

	As At December 31, 2021	As at December 31, 2020
ASSETS		
Current Assets		
Cash and cash equivalents	60,313	45,846
Restricted cash	3,095	-
Trade and other receivables, net of expected credit losses of $0.1 million at December 31, 2021 and $0.6 million at December 31, 2020	17,540	18,953
Inventory	18,457	15,978
Prepaids and other current assets	4,399	4,068
Total Current Assets	**103,804**	**84,845**
Property, plant and equipment, net	51,697	49,847
Capitalized software, net	7,395	8,344
Operating lease right-of-use assets, net	30,880	33,643
Goodwill	-	1,449
Other assets	5,663	5,016
Total Assets	**199,439**	**183,144**
LIABILITIES		
Current Liabilities		
Accounts payable and accrued liabilities	22,751	20,350
Other liabilities	2,379	2,779
Customer deposits and deferred revenue	2,420	1,819
Current portion of long-term debt and accrued interest	3,323	898
Current portion of lease liabilities	6,214	5,503
Total Current Liabilities	**37,087**	**31,349**
Deferred tax liabilities, net	-	414
Long-term debt	67,319	5,069
Long-term lease liabilities	27,267	29,781
Total Liabilities	**131,673**	**66,613**
SHAREHOLDERS' EQUITY		
Common shares, unlimited authorized without par value, 85,345,433 issued and outstanding at December 31, 2021 and 84,681,364 at December 31, 2020	181,782	180,639
Additional paid-in capital	13,200	10,175
Accumulated other comprehensive loss	(15,916)	(17,018)
Accumulated deficit	(111,300)	(57,265)
Total Shareholders' Equity	**67,766**	**116,531**
Total Liabilities and Shareholders' Equity	**199,439**	**183,144**

Refer to Note 17 for commitments

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

DIRTT Environmental Solutions Ltd.

Consolidated Statements of Operations and Comprehensive Loss

(Stated in thousands of U.S. dollars, except per share data)

	For the Year Ended December 31,		
	2021	2020	2019
Product revenue	143,000	166,689	240,659
Service revenue	4,593	4,818	7,076
Total revenue	**147,593**	**171,507**	**247,735**
Product cost of sales	118,525	113,445	153,128
Costs of under-utilized capacity	1,756	2,010	2,240
Service cost of sales	3,852	2,769	5,943
Total cost of sales	**124,133**	**118,224**	**161,311**
Gross profit	**23,460**	**53,283**	**86,424**
Expenses			
Sales and marketing	31,041	28,049	33,939
General and administrative	30,595	26,663	27,645
Operations support	9,372	9,381	11,037
Technology and development	8,234	8,111	7,818
Stock-based compensation	4,713	2,351	3,876
Goodwill impairment	1,443	-	-
Reorganization	-	-	4,560
Total operating expenses	**85,398**	**74,555**	**88,875**
Operating loss	**(61,938)**	**(21,272)**	**(2,451)**
Government subsidies	11,455	12,721	-
Foreign exchange loss	(335)	(576)	(1,324)
Interest income	77	238	529
Interest expense	(3,131)	(305)	(131)
	8,066	**12,078**	**(926)**
Loss before tax	**(53,872)**	**(9,194)**	**(3,377)**
Income taxes			
Current tax expense (recovery)	210	(3,521)	1,064
Deferred tax expense (recovery)	(414)	5,625	(45)
	(204)	**2,104**	**1,019**
Net loss	**(53,668)**	**(11,298)**	**(4,396)**
Loss per share			
Basic and diluted loss per share	(0.63)	(0.13)	(0.05)
Weighted average number of shares outstanding (in thousands)			
Basic and Diluted	85,027	84,681	84,671

Consolidated Statement of Comprehensive Loss

	For the Year Ended December 31,		
	2021	2020	2019
Loss for the year	(53,668)	(11,298)	(4,396)
Exchange differences on translation of foreign operations	1,102	1,010	4,064
Comprehensive loss for the year	**(52,566)**	**(10,288)**	**(332)**

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

DIRTT Environmental Solutions Ltd.

Consolidated Statements of Changes in Shareholders’ Equity
(Stated in thousands of U.S. dollars, except for share data)

	Number of Common shares	Common shares	Additional paid-in capital	Accumulated other comprehensive income (loss)	Accumulated deficit	Total shareholders’ equity
As at December 31, 2018	**84,660,319**	**180,562**	**6,615**	**(22,092)**	**(41,571)**	**123,514**
Issued on exercise of options	21,045	77	(1)	-	-	76
Stock-based compensation	-	-	1,729	-	-	1,729
Foreign currency translation adjustment	-	-	-	4,064	-	4,064
Net loss for the year	-	-	-	-	(4,396)	(4,396)
As at December 31, 2019	**84,681,364**	**180,639**	**8,343**	**(18,028)**	**(45,967)**	**124,987**
Stock-based compensation	-	-	1,832	-	-	1,832
Foreign currency translation adjustment	-	-	-	1,010	-	1,010
Net loss for the year	-	-	-	-	(11,298)	(11,298)
As at December 31, 2020	**84,681,364**	**180,639**	**10,175**	**(17,018)**	**(57,265)**	**116,531**
Stock-based compensation	-	-	4,453	-	-	4,453
Issued on vesting of RSUs	664,069	1,143	(1,143)	-	-	-
RSUs withheld to settle employee tax obligations		-	(285)	-	(367)	(652)
Foreign currency translation adjustment	-	-	-	1,102	-	1,102
Net loss for the year	-	-	-	-	(53,668)	(53,668)
As at December 31, 2021	**85,345,433**	**181,782**	**13,200**	**(15,916)**	**(111,300)**	**67,766**

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

DIRTT Environmental Solutions Ltd.

Consolidated Statements of Cash Flows

(Stated in thousands of U.S. dollars)

	For the Year Ended December 31,		
	2021	2020	2019
Cash flows from operating activities:			
Net loss for the period	(53,668)	(11,298)	(4,396)
Adjustments:			
Depreciation and amortization	14,513	11,706	12,242
Stock-based compensation, net of settlements	4,248	2,351	202
Foreign exchange (gain) loss	112	746	345
Accretion of convertible debentures	352	-	-
Loss (gain) on disposal of property, plant and equipment	12	(46)	53
Deferred income tax expense (recovery)	(414)	5,625	(45)
Goodwill impairment	1,443	-	-
Changes in operating assets and liabilities:			
Trade and other receivables	1,452	6,067	21,025
Inventory	(2,449)	1,638	1,667
Prepaid and other assets, current and long term	(1,132)	(241)	(873)
Accounts payable and accrued liabilities	2,702	752	(17,379)
Customer deposits and deferred revenue	601	(1,754)	(4,276)
Other liabilities	(213)	(3,971)	5,196
Accrued interest	948	-	-
Lease liabilities	283	910	(402)
Net cash flows provided by (used in) operating activities	**(31,210)**	**12,485**	**13,359**
Cash flows from investing activities:			
Purchase of property, plant and equipment, net of accounts payable changes	(11,781)	(16,597)	(12,303)
Capitalized software development expenditures	(2,340)	(2,998)	(2,604)
Other asset expenditures	(496)	(517)	(848)
Recovery of software development expenditures	461	674	511
Proceeds on sale of property, plant and equipment	18	46	55
Net cash flows used in investing activities	**(14,138)**	**(19,392)**	**(15,189)**
Cash flows from financing activities:			
Proceeds received on long-term debt	64,912	6,130	-
Repayment of long-term debt	(1,808)	(406)	(5,561)
Employee tax payments on vesting of RSUs	(652)	-	-
Cash received on exercise of options	-	-	77
Net cash flows provided by (used in) financing activities	**62,452**	**5,724**	**(5,484)**
Effect of foreign exchange on cash, cash equivalents and restricted cash	458	(145)	1,076
Net increase (decrease) in cash, cash equivalents and restricted cash	**17,562**	**(1,328)**	**(6,238)**
Cash, cash equivalents and restricted cash, beginning of period	45,846	47,174	53,412
Cash, cash equivalents and restricted cash, end of period	**63,408**	**45,846**	**47,174**
Supplemental disclosure of cash flow information:			
Interest paid	(1,543)	(103)	(99)
Income taxes (paid) received	433	1,817	(2,518)

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

	For the Year Ended December 31,		
	2021	2020	2019
Cash and cash equivalents	60,313	45,846	47,174
Restricted cash	3,095	-	-
Total cash, cash equivalents and restricted cash	**63,408**	**45,846**	**47,174**

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

1. GENERAL INFORMATION

DIRTT Environmental Solutions Ltd. and its subsidiaries ("DIRTT," the "Company," "we" or "our") is a leading technology-driven manufacturer of highly customized interiors. DIRTT combines its proprietary 3D design, configuration and manufacturing ICE® software ("ICE" or "ICE Software") with integrated in-house manufacturing of its innovative prefabricated interior construction solutions and an extensive distribution partners network ("Distribution Partners"). ICE provides accurate design, drawing, specification, pricing and manufacturing process information, allowing rapid production of high-quality custom solutions using fewer resources than traditional manufacturing methods. ICE is also licensed to unrelated companies and Distribution Partners of the Company. DIRTT is incorporated under the laws of the province of Alberta, Canada, its headquarters is located at 7303 – 30th Street S.E., Calgary, AB, Canada T2C 1N6 and its registered office is located at 4500, 855 – 2nd Street S.W., Calgary, AB, Canada T2P 4K7. DIRTT's common shares trade on the Toronto Stock Exchange under the symbol "DRT" and on The Nasdaq Global Select Market ("Nasdaq") under the symbol "DRTT".

2. SIGNIFICANT ACCOUNTING POLICIES

Basis of presentation

These consolidated financial statements ("Financial Statements"), including comparative figures, have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP").

In these Financial Statements, unless otherwise indicated, all dollar amounts are expressed in United States ("U.S.") dollars. DIRTT's financial results are consolidated in Canadian dollars, the Company's functional currency, and the Company has adopted the U.S. dollar as its reporting currency. All references to US$ or $ are to U.S. dollars and references to C$ are to Canadian dollars.

Principles of consolidation

The Financial Statements include the accounts of DIRTT and its subsidiaries. All intercompany balances, income and expenses, unrealized gains and losses and dividends resulting from intercompany transactions have been eliminated upon consolidation.

Basis of measurement

These Financial Statements have been prepared on the historical cost convention except for certain financial instruments and stock-based compensation that are measured at fair value, as explained in the accounting policies below. Historical cost is generally based on the fair value of the consideration given in exchange for assets.

Use of estimates

The preparation of the Financial Statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities and the disclosure of contingent liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting period. Such estimates primarily relate to unsettled transactions and events as of the date of the Financial Statements. Estimates are based on historical data and experience, as well as various other factors that management considers reasonable under the circumstances. Actual outcomes can differ from these estimates.

Significant estimates and assumptions made by management include:

- Estimates of ability and timeliness of customer payments of accounts receivable;
- Estimates of useful lives of depreciable assets as well as the fair value of long-term assets and future cash flows used for impairment calculations;
- Estimates of future taxable earnings used to assess the realizable value of deferred tax assets;
- Tax interpretations, regulations and legislation in the various jurisdictions in which the Company and its subsidiaries operate;

- Estimates of the fair value of stock awards, including whether the performance criteria will be met and measurement of the ultimate payout amount; and
- Estimates of liabilities associated with the potential and amount of warranty, legal claims and other contingencies.

Segments

Management has determined that DIRTT has one operating segment. The Company's chief executive officer, who is DIRTT's chief operating decision maker, reviews financial information on a consolidated and aggregate basis, together with certain operating metrics principally to make decisions about how to allocate resources and to measure the Company's performance.

Foreign currency translation

DIRTT Environmental Solutions Ltd. is a Canadian company and its functional currency is the Canadian dollar. DIRTT's wholly owned subsidiary is domiciled in the United States and its functional currency is the U.S. dollar.

Assets and liabilities denominated in foreign currencies, other than those held through foreign subsidiaries, are translated into the transacting company's functional currency at the year-end exchange rate for monetary items and at the historical exchange rates for non-monetary items. Foreign currency revenues and expenses are translated at the exchange rates in effect on the dates of the related transactions. Foreign exchange gains and losses, other than those arising from the translation of the Company's net investments in foreign subsidiaries, are included in income.

The accounts of the Company's U.S. dollar subsidiary is translated into Canadian dollars, and the Financial Statements are translated into U.S. dollars for financial statement presentation. Assets and liabilities are translated using year-end exchange rates, and revenues, expenses, gains and losses are translated using average monthly exchange rates. Foreign exchange gains and losses arising from the translation of the Company's assets and liabilities are included in "comprehensive loss for the year".

Cash and cash equivalents and restricted cash

Cash and cash equivalents include cash on hand held at banks and cash equivalents, which are defined as highly liquid investments with original maturities of three months or less. Restricted cash is a reserve account not available for immediate or general business use and is required when certain requirements are not met under the terms of the Company's senior secured credit facility (as defined in Note 12).

Trade and other receivables, net of expected credit losses

Accounts receivable are recorded at the invoiced amount, do not require collateral and do not bear interest. The Company estimates its allowance for doubtful accounts using the current expected credit loss ("CECL") methodology, which is designed to capture the Company's current estimate of all expected credit losses.

Inventory

Inventory is comprised of raw materials and work in progress. The Company does not typically carry a significant amount of finished goods inventory. Inventory is valued at the lower of weighted average cost and net realizable value. Net realizable value is based on an item's usability in the manufacturing of the Company's products. The Company records an allowance for obsolescence when the net realizable value of inventory items declines below weighted average cost, net realizable value is determined based on current market prices for inventory less the estimated cost to sell. Work in progress is valued at an estimate of cost, including attributable overheads, based on stage of completion.

Fixed production overheads are allocated to inventory on the basis of normal capacity of the production facilities. In periods where production levels are abnormally low, unallocated overheads are separately recognized as an expense in the period in which they are incurred.

Leases

The Company categorizes leases at their inception as either operating or finance leases. Leases where the Company assumes substantially all of the rewards or ownership and leases where ownership is transferred at the end of the lease term, or by way of a bargain purchase option, are classified as finance leases. Upon initial recognition, the leased asset is measured at an amount equal to the lower of its fair value and the present value of the minimum lease payments. Lease payments are apportioned between finance charges and reduction of the lease liability, so as to achieve a constant rate of interest on the balance of the liability. Finance charges are recognized in the statement of operations.

The Company's Leasing Facilities (as defined in Note 5) are accounted for as finance leases as ownership of the equipment is expected to return to the Company at the end of the lease term. These transactions are not accounted for as a sale of the underlying equipment as the Company continues to control the equipment.

For leases categorized as operating, the Company determines if an arrangement is a lease or contains a lease element at inception. The arrangement is a lease if it conveys the right to the Company to control the use of identified property, plant, or equipment for a period of time in exchange for consideration. Operating leases are separately disclosed as operating lease right-of-use ("ROU") assets, with a corresponding lease liability split between current and long-term components on the balance sheet. Operating leases with an initial term of 12 months or less are not included on the balance sheet.

The Company recognizes lease expense for these leases on a straight-line basis over the lease term. ROU assets represent the right to use an underlying asset for the lease term and operating lease liabilities represent the obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term.

Property, plant and equipment

Property, plant and equipment are recorded at cost, including direct costs, attributable indirect costs and carrying costs, less accumulated depreciation and any accumulated impairment losses. Expenditures for repairs and maintenance are expensed as incurred, while renewals and betterments are capitalized.

Depreciation is charged to the consolidated statement of operations on a straight-line basis over the estimated useful lives of the assets. The estimated useful lives of the Company's property, plant and equipment are as follows:

Building	25 years
Manufacturing equipment	10 years
Leasehold improvements	Over term of lease (1 to 10 years)
Office equipment	5 years
Tooling and prototypes	4 years
Computer equipment	3 years
Vehicles	3 years

When assets are disposed of or retired, the cost and accumulated depreciation and impairment losses are removed from the respective accounts and any resulting loss is reflected in operating expenses.

Capitalized software costs

The Company capitalizes costs related to internally developed software during the application development stage when (i) the preliminary project stage is completed, (ii) management has authorized further funding for the completion of the project, and (iii) it is probable that the project will be completed and performed as intended. Capitalized costs includes costs of personnel and related expenses for employees and third parties directly attributable to the projects. Capitalization of these costs ceases once the project is substantially complete and the software is ready for its intended purpose. Costs incurred for significant upgrades and enhancements are also capitalized. Costs related to preliminary project activities and post implementation activities, including training, maintenance and minor modifications or enhancements are expensed as incurred. Capitalized software costs are amortized on a straight-line basis over the estimated useful life of the developed asset, which is generally three to five years. Management evaluates the useful lives of these assets on an annual basis and tests for impairment whenever events or changes in circumstances occur that could impact the recoverability of the assets.

Software development is considered internal-use as it is used to design and sell the DIRTT products and is not included in the end client's product. Revenues received from Distribution Partners for ICE Software are recognized as revenues as they are considered an element of the product sale. Any incidental third-party revenues received for the ICE Software are credited against capitalized software costs. The Company follows this accounting policy for cloud computing arrangements that are considered a service contract, however, these projects are capitalized to prepaids and other assets on the balance sheet and are expensed as an operating cost, as opposed to amortization, over the expected term of the software service contract. The Company adopted this amendment on January 1, 2020 using the prospective transition approach and classified $0.7 million as other assets on the consolidated balance sheet for the year ended December 31, 2021.

Impairment of long-lived assets

Management evaluates the recoverability of the Company's property, plant and equipment, capitalized software costs and ROU assets when events or changes in circumstances indicate a potential impairment exists. Events and changes in circumstances considered by the Company in determining whether the carrying value of long-lived assets may not be recoverable include, but are not limited to, significant changes in performance relative to expected operating results, significant changes in the use of the assets, significant negative industry or economic trends, and changes in the Company's business strategy. Impairment testing is performed at an asset level that represents the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities (an "asset group"). In determining if impairment exists, the Company estimates the undiscounted cash flows to be generated from the use and ultimate disposition of the asset group. If impairment is indicated based on a comparison of the assets' carrying values and the undiscounted cash flows, the impairment loss is measured as the amount by which the carrying amount of the assets exceeds the fair value of the assets.

Goodwill

Goodwill represents the excess of the purchase price over the fair value of net assets acquired and liabilities assumed in a business combination. Goodwill is tested for impairment at the reporting unit level at least annually or whenever changes in circumstances indicate that goodwill might be impaired. The Company early adopted ASU 2017-04 in 2019, which simplified the subsequent measurement of goodwill by eliminating the second step of the goodwill impairment test.

The carrying value of goodwill, which is not amortized, is assessed for impairment annually in the fourth quarter of each year, or more frequently as economic events dictate. The Company has the option of performing an assessment of certain qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying value. If goodwill is determined to be impaired, the impairment charge that would be recognized is based on the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying value of goodwill.

Convertible Debentures

The Company accounts for convertible debentures as liabilities. Embedded features included in the convertible debentures that require bifurcation are accounted for separately. Costs incurred directly related to the issuance of convertible debentures are presented as a direct deduction against the carrying amount of the convertible debentures and are amortized to interest expense using the effective interest method.

Income taxes

Income tax expense is comprised of current and deferred tax. Income tax is recognized in the consolidated statement of operations and comprehensive income (loss) except to the extent it relates to items recognized directly in equity.

Current tax

Current tax expense is based on the results for the year, adjusted for items that are not taxable or not deductible. Current tax is calculated using tax rates and laws that were enacted at the end of the reporting period. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. Provisions are established where appropriate on the basis of amounts expected to be paid to the tax authorities.

Deferred tax

Deferred tax is recognized, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated balance sheet. Deferred income tax assets and liabilities are determined based on differences between the financial reporting and tax bases of assets and liabilities using enacted tax rates and laws that will be in effect when the differences are expected to reverse.

The effect of a change in income tax rates on deferred income tax assets and liabilities is recognized in income in the period during which the change occurs.

When appropriate, the Company records a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, the Company considers whether it is more likely than not that all or some portion of the Company's deferred tax assets will not be realized, based on management's judgment using available evidence about future events.

At times, tax benefits claims may be challenged by a tax authority. Tax benefits are recognized only for tax positions that are more likely than not sustainable upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50% likely to be realized upon settlement. A liability for "unrecognized tax benefits" is recorded for any tax benefits claimed in the Company's tax returns that do not meet these recognition and measurement standards.

Revenue recognition

The Company accounts for revenue in accordance with topic 606, Revenue from Contracts with Customers, ("ASC 606") and Subtopic 340-40, Other Assets and Deferred Costs – Contracts with Customers. Under ASC 606, an entity recognizes revenue in a manner that reflects the transfer of promised goods or services to customers in an amount which the entity expects to be entitled in exchange for those goods or services.

The Company recognizes revenue upon transfer of control of promised goods or services to customers at transaction price, an amount that reflects the consideration the Company expects to receive in exchange for those goods or services. Transaction price is calculated as selling price net of variable consideration which may include estimates for sales incentives related to current period product revenue. Revenue is measured at the fair value of the consideration received or receivable, after discounts, rebates and sales taxes or income taxes and duties.

Product sales

The Company recognizes revenue upon transfer of control of products to the customer, which typically occurs upon shipment. The Company's main performance obligation to customers is the delivery of products in accordance with purchase orders. Each purchase order defines the transaction price for the products purchased under the arrangement. Distribution Partners typically sell DIRTT product to end clients and issue purchase orders to the Company to manufacture the product. Distribution Partners utilize ICE licenses to sell DIRTT products, the ICE licenses sold to Distribution Partners are not considered a separate performance obligation as they are not distinct, and ICE license revenue is recognized in conjunction with product sales. The Distribution Partner ICE Software revenue is recognized over the license period.

The Company's standard sales terms are Free On Board ("FOB") shipping point, which comprise the majority of sales. The Company usually requires a 50% progress payment on receipt of certain orders, excluding certain government orders or in some special contractual situations. Customer deposits received are recognized as a liability on the balance sheet until revenue recognition criteria is met. At the point of shipment, the customer is generally required to pay the balance of the sales price within 30 days. The Company's sales arrangements do not have any material financing components. In addition, the Company's customer arrangements do not produce contract assets that are material to its consolidated financial statements.

The Company provides sales commissions to internal and external sales representatives which are earned in the period in which revenue is recognized.

The Company accounts for product transportation revenue and costs as fulfillment activities and present the associated costs in costs of goods sold in the period in which the Company sells its product.

Contracts containing multiple performance obligations

The Company offers certain arrangements whereby a customer can purchase products and installation together which are generally capable of being distinct and accounted for as separate performance obligations. Where multiple performance obligations exist, the Company determines revenue recognition by (1) identifying the contract with the customer, (2) identifying the performance obligation in the contract, (3) determining the transaction price, (4) allocating the transaction price to the performance obligations based on the relative standalone selling prices, typically based on cost plus a reasonable margin, and (5) recognizing revenue as the performance obligations are satisfied.

Installation and other services

The Company provides installation and other services for certain customers as a distinct performance obligation. Revenue from installation services is recognized over time as the service is performed.

Principal vs Agent Considerations

The Company evaluates the presentation of revenue on a gross vs. net basis based on whether it acts as a principal by controlling the product or service sales to customers. In certain instances, the Company facilitates contracting of certain sales on behalf of Distribution Partners. The Company records these revenues on a gross basis when the Company is obligated to fulfill the service and has the risk associated with service delivery. The Company records these revenues on a net basis when the Distribution Partner has the obligation to fulfill the services and has the risk associated with service delivery.

Distribution Partner rebates

Rebates to Distribution Partners (“Partner Rebates”) are accrued for and recognized as a reduction of revenue at the date of the sale to the customer. Partner Rebates include amounts collected directly by the Company owed to Distribution Partners in accordance with their Distribution Partner agreements, being the difference between the price to the end customer and the Distribution Partners’ price. Other sales discounts are deducted immediately from sales invoices.

Contract balances

Timing of revenue recognition may differ from the timing of invoicing to customers. The Company records an unbilled receivable when revenue is recognized prior to invoicing. As the Company’s contracts are less than one year in duration, the Company has elected to apply the practical expedients to expense costs related to costs to obtain contracts and not disclose unfulfilled performance obligations. As deferred revenue and customer deposits are typically recognized during the year the Company does not account for financing elements.

Warranties

The Company provides a warranty on all products sold to its clients and Distribution Partner’s clients. Warranties are not sold separately to customers. Provisions for the expected cost of warranty obligations are recognized based on an analysis of historical costs for warranty claims relative to current activity levels and adjusted for factors based on management’s assessment that increase or decrease the provision. Warranty provision is recognized in cost of goods sold. Warranty claims have historically not been material and do not constitute a separate performance obligation.

Stock-based compensation

The Company follows the fair value-based approach to account for options and restricted share units (“RSUs”). Compensation expense and an increase in “Additional paid-in capital” are recognized for options and RSUs over their vesting period based on their estimated fair values on the grant date, as determined using the Black-Scholes option pricing model for the majority of options and the market value of the Company’s common shares on the grant date for RSUs. Certain executive stock options and RSUs have performance conditions and are valued using a Monte Carlo model.

On exercise of stock options and RSUs, the recorded fair value of the option or RSU is removed from “Additional paid-in capital” and credited to “Share capital”. For options, any consideration paid by employees is credited to “Share capital” when the option is exercised. The Company’s stock options and RSUs are not shares of the Company and have no rights to vote, receive dividends, or any other rights as a shareholder of the Company.

During 2018 and 2019, the Company provided a cash settlement alternative for certain stock options. The fair value on grants attributable to those awards was reclassified on the balance sheet from shareholders’ equity to other liabilities, and at period end the liability is adjusted to fair value and the excess of fair value over previously recognized stock-based compensation is expensed. The fair value of the awards at the date of modification was greater than the grant date fair value of the previously vested equity awards, therefore the additional fair value was treated as an expense at the date of modification. Increases or decreases in fair value subsequent to the modification date will be recorded in earnings except that the Company shall not recognize a cumulative expense lower than the grant date fair value of the original equity awards. On October 9, 2019, following the listing of its common shares on Nasdaq, the Company ceased cash-settlement of stock options and the associated liability accounting for stock options and returned to equity settlement accounting for stock options, as described above.

Stock based compensation expense is also recognized for performance share units (“PSUs”) and deferred share units (“DSUs”) using the fair value method. Compensation expense is recognized over the vesting period and the corresponding amount is recorded as a liability on the balance sheet.

Technology and development expenditures

Technology and development expenses are comprised primarily of salaries and benefits associated with the Company's product and software development personnel which do not qualify for capitalization. These costs are expensed as incurred and exclude certain information and technology costs used in operations which are classified as general and administrative costs.

Government subsidies

The Company accounts for government subsidies on an accrual basis when the conditions for eligibility are met. The Company has adopted an accounting policy to present government subsidies as other income.

Earnings per share ("EPS")

Basic earnings per share is calculated using the weighted average number of common shares outstanding during the year. Diluted earnings per share is calculated using the treasury stock method for determining the dilutive impact of stock options. The Company follows the "if converted" method for accounting for the impact of convertible debentures on earnings (loss) per share, whereby interest charges applicable to the convertible debentures are added to the numerator and the convertible debentures are assumed to have been converted at the beginning of the period (or time of issuance, if later), and the resulting common shares are added to the denominator.

Fair value of financial instruments

ASC 820, "Fair Value Measurements," requires entities to disclose the fair value of financial instruments, both assets and liabilities recognized and not recognized on the balance sheet, for which it is practicable to estimate fair value. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date.

The Company's fair value analysis is based on the degree to which the fair value is observable and grouped into categories accordingly:

- Level 1 financial instruments are those which can be derived from quoted market prices (unadjusted) in active markets for similar financial assets or liabilities.
- Level 2 financial instruments are those which can be derived from inputs that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices). Level 2 financial instruments include current and long-term debt. The carrying amounts of these instruments approximates fair value due to limited changes to interest rates and the Company's credit rating since issuance.
- Level 3 financial instruments are those derived from valuation techniques that include inputs for the financial asset or liability which are not based on observable market data (unobservable inputs). The Company does not have any Level 3 financial instruments.

The carrying amounts of cash and cash equivalents and restricted cash; trade and other receivables; accounts payable and accrued liabilities; other liabilities; and customer deposits approximate fair value due to their short-term nature.

3. ADOPTION OF NEW AND REVISED ACCOUNTING STANDARDS

On January 1, 2021, the Company adopted Accounting Standards Update No. 2020- 06, "Debt – Debt with Conversion and other Options (Subtopic 470-20) and Derivatives and Hedging – Contracts in Entity's Own Equity (Subtopic 815-40)" (the "ASU"). The ASU eliminates the beneficial conversion and cash conversion accounting models for convertible instruments. It also amends the accounting for certain contracts in an entity's own equity that are currently accounted for as derivatives because of specific settlement provisions. In addition, the new guidance modifies how particular convertible instruments and certain contracts that may be settled in cash or shares impact the diluted earnings per share computation. The amendments in the ASU are effective for fiscal years beginning after March 15, 2021 and early adoption is permitted, but no earlier than fiscal years beginning after March 15, 2020, including interim periods within those fiscal years.

The Company early adopted this standard on January 1, 2021. The Company had no convertible debt instruments outstanding at December 31, 2020 and the convertible unsecured subordinated debentures issued in January 2021 and November 2021 (see Note 12) have been evaluated under this new guidance and there were no other transitional impacts to consider.

Although there are several other new accounting standards issued or proposed by the Financial Accounting Standards Board, which the Company has adopted or will adopt, as applicable, the Company does not believe any of these accounting pronouncements has had or will have a material impact on its Financial Statements.

4. COVID-19

On March 11, 2020, COVID-19 was declared a global pandemic by the World Health Organization and has had extraordinary and rapid negative impacts on global societies, workplaces, economies and health systems. The resulting adverse economic conditions have negatively impacted construction activity and consequently DIRTT's business, with significant negative impacts extending through 2021 and potentially beyond.

While many construction sites remain open and re-opening strategies have been implemented across North America, certain projects have experienced delays, impacted by both the implementation of social distancing and other safety-related measures and the re-emergence of COVID-19 in certain geographic areas. It is not possible to predict the timing and pace of economic recovery, or the resumption of delayed construction activity and related demand, nor is it possible to predict the impact of such developments on the Company's ability to achieve its business objectives.

COVID-19 has increased the complexity of estimates and assumptions used to prepare the Company's consolidated financial statements and the following key sources of estimation uncertainty:

Credit risk

COVID-19 may cause DIRTT's Distribution Partners and customers to experience liquidity issues and this may result in higher expected credit losses or slower collections. Management estimated the impact of expected credit losses and increased the provision by $0.6 million in the first quarter of 2020 (see Note 6) and during 2021 reduced the Company's provision for an uncollectible amount that was related to a specific customer. Management has continued to reassess the impact of COVID-19 on the Company's Distribution Partners. The estimation of such credit losses is complex because of limited historical precedent for the current economic situation. In addition, the Company acquired trade credit insurance effective April 1, 2020 which remained in place during 2021 (see Note 6).

Liquidity risk

The Company may have lower cash flows from operating activities available to service debts due to lower sales or collections as a result of COVID-19. To address this risk and the uncertainty around the timing of a recovery from COVID-19, the Company issued convertible unsecured subordinated debentures in January and December of 2021, for net proceeds of $29.5 million and $25.6 million, respectively, and has credit facilities available. See Note 12 for information about our credit facilities.

Government subsidies

As part of the Canadian federal government's COVID-19 Economic Response Plan, the Canadian government established the Canadian Emergency Wage Subsidy ("CEWS"). The CEWS provided the Company with a taxable subsidy in respect of a specific portion of wages paid to Canadian employees during qualifying periods extending from March 15, 2020 to October 23, 2021 based on the percentage decline of certain of the Company's Canadian sourced revenues during each qualifying period. The Company's eligibility for the CEWS was subject to change for each qualifying period and was reviewed by the Company for each qualifying period, with amounts being received by the Company for various, but not each, qualifying period. Pursuant to amendments enacted as part of the 2021 Canadian federal budget, the Company may be required to repay all or a portion of the CEWS amounts received for any qualifying period commencing after June 5, 2021 where the aggregate compensation for "specified executives" (within the meaning of the CEWS) during the 2021 calendar year exceeds the aggregate compensation for "specified executives" during the 2019 calendar year.

On November 19, 2020, the Canadian government also implemented the Canada Emergency Rent Subsidy ("CERS"). The CERS provided a taxable subsidy to cover eligible expenses for qualifying properties, subject to certain maximums, for qualifying periods extending from September 27, 2020 to October 23, 2021, with the amount of the subsidy available to the Company being based on the percentage decline of certain of the Company's Canadian-sourced revenues in each qualifying period. The Company's eligibility for the CERS was subject to change for each qualifying period and was reviewed by the Company for each qualifying period.

The CEWS and CERS programs ended on October 23, 2021.

5. LEASES

The Company leases office and factory space under various operating leases. As the Company's leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at the commencement date in determining the present value of lease payments. The Company gives consideration to instruments with similar characteristics when calculating its incremental borrowing rate. The Company's operating leases have remaining lease terms of 1 year to 24 years. Lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option.

The weighted average remaining lease term and weighted average discount rate at December 31, 2021 were 14 years (2020 - 14 years) and 5.2% (2020 – 5.1%), respectively.

The following table includes ROU assets included on the balance sheet at December 31, 2021 and 2020:

	ROU Assets		
	Cost	**Accumulated depreciation**	**Net book value**
At January 1, 2020	**24,778**	**(4,117)**	**20,661**
Additions	16,805	-	16,805
Depreciation expense	-	(3,884)	(3,884)
Exchange differences	257	(196)	61
At December 31, 2020	**41,840**	**(8,197)**	**33,643**
Additions	2,401	-	2,401
Depreciation expense	-	(4,989)	(4,989)
Exchange differences	(186)	11	(175)
At December 31, 2021	**44,055**	**(13,175)**	**30,880**

The following table includes lease liabilities included on the balance sheet at December 31, 2021 and 2020:

	Lease Liability	
	2021	**2020**
At January 1,	**35,284**	**21,403**
Additions	2,401	17,255
Accretion	1,758	1,175
Repayment of lease liabilities	(6,509)	(5,358)
Lease inducements	720	750
Exchange differences	(173)	59
At December 31,	**33,481**	**35,284**
Current lease liabilities	6,214	5,503
Long-term lease liabilities	27,267	29,781

The following table includes maturities of operating lease liabilities at December 31, 2021:

2022	6,406
2023	4,751
2024	3,150
2025	3,184
2026	3,267
Thereafter	28,963
Total	**49,721**
Total lease liability	**33,481**
Difference between undiscounted cash flows and lease liability	16,240

In September 2020, the Company commenced the 15 year lease associated with the construction of the South Carolina Facility. The lease may be extended for up to two 5 year periods. Undiscounted rent obligations associated with this lease are $28.1 million which includes the initial 15 year term and two 5 year extensions. The rent obligations have been discounted at a rate of 5.5% to determine the lease liability.

In December 2020, the Company entered into a lease agreement with an initial term of 8 years and one 5 year extension associated with a new DXC in Dallas, Texas. Undiscounted rent obligations associated with this lease are $6.7 million. The rent obligations have been discounted at a rate of 4.75% to determine the lease liability.

6. TRADE AND OTHER RECEIVABLES

Accounts receivable are recorded at the invoiced amount, do not require collateral and do not bear interest. The Company estimates an allowance for credit losses using the lifetime expected credit loss at each measurement date taking into account historical credit loss experience as well as forward-looking information in order to establish rates for each class of financial receivable with similar risk characteristics. Adjustments to this estimate are recognized in the statement of operations.

In order to manage and assess our risk, management maintains credit policies that include regular review of credit limits of individual receivables and systematic monitoring of aging of trade receivables and the financial wellbeing of our customers. In addition, we acquired trade credit insurance effective April 1, 2020. At December 31, 2021, approximately 90% of our trade accounts receivable are insured, relating to accounts receivables from counterparties deemed creditworthy by the insurer and excluding accounts receivable from government entities, that have arisen since April 1, 2020 when the trade credit insurance became effective.

Our trade balances are spread over a broad Distribution Partner base, which is geographically dispersed. For the years ended December 31, 2021 and 2020 no Distribution Partner accounted for greater than 10% of revenue. In addition, and where possible, we collect a 50% deposit on sales, excluding government and certain other clients.

	As at December 31,	
	2021	**2020**
Current	13,659	12,500
Overdue	621	1,211
	14,280	**13,711**
Less: expected credit losses	(130)	(588)
	14,150	**13,123**
Sales tax receivable	196	242
Government subsidies receivable	-	1,743
Income tax receivable	3,194	3,845
	17,540	**18,953**

Due to the uncertainties associated with the COVID-19 pandemic as well as the disruption to businesses in North America, the overall credit quality of certain receivables declined at March 31, 2020 compared to January 1, 2020. As a result of this consideration and the Company's ongoing review of the credit quality of receivables, expected credit losses were increased by $0.6 million during the quarter ended March 31, 2020. During 2021, $0.5 million of receivables for a specific customer balance was written off (2020 - $0.1 million). No significant increase to our expected credit losses was required at December 31, 2021. Receivables are generally considered to be past due when over 60 days old unless there is a separate payment arrangement in place for the collection of the receivable.

7. INVENTORY

	As at December 31,	
	2021	**2020**
Raw material	18,388	16,730
Allowance for obsolescence	(646)	(1,073)
Work in progress	715	321
	18,457	**15,978**

In 2021, the Company provided $0.6 million (2020 - $1.1 million) for inventory that is not expected to be used in future production and the associated expense was recorded to cost of goods sold. During 2021 and 2020, the Company experienced periods where it was operating below normal capacity levels. During those periods, overheads included in inventory were not increased and

$1.8 million (2020 - $2.0 million) was recognized directly and separately in cost of sales. Production overheads capitalized in work in progress were $0.1 million at December 31, 2021 (December 31, 2020 - $0.1 million).

8. PROPERTY, PLANT AND EQUIPMENT, NET

	Office and computer equipment	Factory equipment	Leasehold improvements	Total
Cost				
At December 31, 2019	**22,743**	**54,640**	**39,231**	**116,614**
Additions	1,139	11,719	3,777	16,635
Disposals	(28)	(120)	(138)	(286)
Exchange differences	1,134	284	235	1,653
At December 31, 2020	**24,988**	**66,523**	**43,105**	**134,616**
Additions	3,422	4,515	4,372	12,309
Disposals	-	(53)	-	(53)
Exchange differences	236	499	90	825
At December 31, 2021	**28,646**	**71,484**	**47,567**	**147,697**
Accumulated depreciation and impairment				
At December 31, 2019	**13,912**	**32,274**	**29,063**	**75,249**
Depreciation expense	1,723	3,059	3,656	8,438
Disposals	(28)	(120)	(138)	(286)
Exchange differences	755	311	302	1,368
At December 31, 2020	**16,362**	**35,524**	**32,883**	**84,769**
Depreciation expense	3,589	3,670	3,817	11,076
Disposals	-	(23)	-	(23)
Exchange differences	30	100	48	178
At December 31, 2021	**19,981**	**39,271**	**36,748**	**96,000**
Net book value				
At December 31, 2020	**8,626**	**30,999**	**10,222**	**49,847**
At December 31, 2021	**8,665**	**32,213**	**10,819**	**51,697**

As at December 31, 2021, the Company had $2.2 million of assets in progress of completion which were excluded from assets subject to depreciation (December 31, 2020 – $16.2 million, primarily related to equipment procured for the South Carolina Facility).

During the year ended December 31, 2021, we impaired goodwill (see Note 10) and determined that this was an indicator of impairment for property, plant and equipment. The Company estimated the undiscounted cash flows to be generated from the use and ultimate disposition of the property, plant and equipment assets using the same methodology and assumptions included in the goodwill impairment test (see Note 10). The results of the test indicated that the fair value exceeded the carrying values of property, plant and equipment, therefore, no impairment charge was required at December 31, 2021.

9. CAPITALIZED SOFTWARE, NET

	For the Year Ended December 31,	
	2021	2020
Cost		
As at January 1	**35,480**	**32,419**
Additions	2,340	2,998
Recovery of software development expenditures	(461)	(674)
Exchange differences	133	737
As at December 31	**37,492**	**35,480**
Accumulated amortization		
As at January 1	**27,136**	**24,206**
Amortization expense	2,878	2,428
Exchange differences	83	502
As at December 31	**30,097**	**27,136**
Net book value	**7,395**	**8,344**

Estimated amortization expense on capitalized software is $2.4 million in 2022, $1.5 million in 2023, $0.9 million in 2024, $0.7 million in 2025, and $0.1 million in 2026.

10. GOODWILL

	For the Year Ended December 31,	
	2021	2020
As at January 1	**1,449**	**1,421**
Goodwill impairment	(1,443)	-
Exchange differences	(6)	28
	-	**1,449**

The Company's goodwill is assessed at the consolidated company level which represents the Company's sole operating and reporting unit. The Company tests its goodwill for impairment annually during the fourth quarter of the calendar year. Due to the ongoing impact of the COVID-19 pandemic on its financial results in 2021, the Company determined it was necessary to use the quantitative approach to perform its goodwill impairment test. The quantitative impairment test requires estimates to determine the fair value of the reporting unit, as such, requires the Company to make significant assumptions and judgements.

To estimate the fair value of the reporting unit, the Company applied the income approach using discounted future cash flows. Sales and cost projections were based on assumptions driven by current economic conditions. Due to the uncertainty around the future impact of COVID-19, its projections considered various scenarios and the Company probability-weighted the likelihood of each scenario in determining the reporting unit's fair value. The average compounded annual growth rate of revenues was 10% and the Company assumed a 10% - 15% annualized reduction in operating costs in the model. Other key assumptions used in the quantitative assessment of the reporting unit's goodwill were applying a discount rate of 13% and a terminal growth rate of 2%.

Based on its testing, the fair value of goodwill did not exceed the recoverable amount and, accordingly, the entire $1.4 million balance of goodwill was impaired as at December 31, 2021. The impairment charge on goodwill has been separately classified on the consolidated statement of operations and comprehensive loss.

11. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES AND OTHER LIABILITIES

	As at December 31,	
	2021	2020
Trade accounts payable	7,820	4,921
Accrued liabilities	9,649	9,266
Wages and commissions payable	4,275	4,577
Rebates accrued[(1)]	1,007	1,586
	22,751	**20,350**

(1) In 2021, $4.1 million of rebates were earned (2020 - $4.5 million) and $4.7 million were paid (2020 - $3.9 million).

Other liabilities

During the year December 31, 2021, the Company separately classified the current portion of long-term debt and accrued interest on the balance sheet, prior year figures have been reclassified to conform with the current year's presentation:

	As at December 31,	
	2021	2020
Legal provisions[1]	143	45
Deferred and performance share unit liability	785	971
Warranty and other provisions[2]	1,451	1,763
Current portion of long-term debt and accrued interest	3,323	898
Other liabilities, as previously presented	**5,702**	**3,677**
Reclassified to "Current portion of long-term debt and accrued interest"	(3,323)	(898)
Other liabilities	**2,379**	**2,779**

(1) The Company has provided $0.1 million (2020 - $0.05 million) as the estimated amount likely payable for various claims against the Company. The amount provided for is management's best estimate of the potential payments for amounts claimed.
(2) The following table presents a reconciliation of the warranty and other provisions balance:

	As at December 31,	
	2021	2020
As at January 1	**1,763**	**4,008**
Adjustments to timber provision	(500)	(1,750)
Additions to warranty provision	1,019	1,301
Payments related to warranties	(831)	(1,796)
	1,451	**1,763**

12. LONG-TERM DEBT

	Revolving Credit Facility	Leasing Facilities	Convertible Debentures	Total Debt
Balance on January 1, 2020	**-**	**-**	**-**	**-**
Issuances	-	6,130	-	6,130
Accrued interest	-	103	-	103
Interest payments	-	(103)	-	(103)
Principal repayments	-	(406)	-	(406)
Exchange differences	-	243	-	243
Balance at December 31, 2020	**-**	**5,967**	**-**	**5,967**
Current portion of long-term debt and accrued interest	-	898	-	898
Long-term debt	-	5,069	-	5,069
Balance on December 31, 2020	**-**	**5,967**	**-**	**5,967**
Issuances	-	9,805	55,107	64,912
Accretion of issue costs	-	-	352	352
Accrued interest	-	556	1,935	2,491
Interest payments	-	(556)	(987)	(1,543)
Principal repayments	-	(1,808)	-	(1,808)
Exchange differences	-	(55)	326	271
Balance at December 31, 2021	**-**	**13,909**	**56,733**	**70,642**
Current portion of long-term debt and accrued interest	-	2,386	937	3,323
Long-term debt	-	11,523	55,796	67,319

Revolving Credit Facility

On July 19, 2019, the Company entered into a C$50.0 million senior secured revolving credit facility (the “Previous RBC Facility”) with the Royal Bank of Canada (“RBC”). The Previous RBC Facility had a three-year term and could be extended for up to two additional years at the Company’s option. Interest was calculated at the Canadian or U.S. prime rate with no adjustment, or the bankers’ acceptance rate plus 125 basis points. The Previous RBC Facility was subject to a minimum fixed charge coverage ratio of 1.15:1 and a maximum debt to Adjusted EBITDA ratio of 3.0:1 (earnings before interest, tax, depreciation and amortization, non-cash stock-based compensation, plus or minus extraordinary or unusual non-recurring revenue or expenses) calculated on a trailing four quarter basis (the “Covenants”).

During the second quarter of 2020, the Company entered into a letter agreement with RBC pursuant to which the Covenants were waived for the June 30, 2020 and September 30, 2020 quarterly measurement dates (the “Covenant Holiday Period”). In the fourth quarter of 2020, the Company entered into a letter agreement with RBC pursuant to which the Covenants were waived for the December 31, 2020 quarterly measurement date (the “Covenant Holiday Period Extension”). During the Covenant Holiday Period and the Covenant Holiday Period Extension, the Company was able to borrow to a maximum of 75% of eligible accounts receivable and 25% of eligible inventory, less priority payables, subject to an aggregate limit of $50.0 million including amounts borrowed under the Leasing Facilities. During the Covenant Holiday Period and the Covenant Holiday Period Extension, the Company was required to maintain a cash balance of C$10.0 million if no loans were drawn under the facility, have Adjusted EBITDA of not less than a loss of $7.0, $16.5 million and $3.0 million for the twelve month periods ended June 30, September 30, 2020 and December 31, 2020, and make capital expenditures of no more than $10.7 million during the Covenant Holiday Period and $8.8 million during the Covenant Holiday Period Extension. As at December 31, 2020, the Previous RBC Facility was undrawn and the available borrowing base was $10.6 million. The Company was in compliance with the requirements of the covenant holiday as at December 31, 2020.

On February 12, 2021, the Company entered into a C$25.0 million senior secured revolving credit facility with RBC (the “ RBC Facility”), replacing the Previous RBC Facility. Under the RBC Facility, the Company is able to borrow up to a maximum of 90% of investment grade or insured accounts receivable plus 85% of eligible accounts receivable plus the lesser of 75% of the book value of eligible inventory and 85% of the net orderly liquidation value of eligible inventory less any reserves for potential prior ranking claims (the “Borrowing Base”). At December 31, 2021, available borrowings are C$13.2 million ($10.4 million), of which no amounts have been drawn. Interest is calculated at the Canadian or U.S. prime rate plus 30 basis points or at the Canadian Dollar Offered Rate or LIBOR plus 155 basis points. Under the RBC Facility, if the Aggregate Excess Availability, defined as the Borrowing Base less any loan advances or letters of credit or guarantee and if undrawn including unrestricted cash, is less than C$5.0 million, the Company is subject to a FCCR covenant of 1.10:1 on a trailing twelve month basis. Additionally, if the FCCR has been above 1.10:1 for the 3 immediately preceding months, the Company is required to maintain a reserve account equal to the aggregate of one-year of payments on the Leasing Facilities (defined below). The Company did not meet the 3 month FCCR requirement during the fourth quarter of 2021 which would result in requiring the restriction of $3.1 million of cash at December 31, 2021. Should an event of default occur or the Aggregate Excess Availability be less than C$6.25 million for 5 consecutive business days, the Company would enter a cash dominion period whereby the Company’s bank accounts would be blocked by RBC and daily balances will set-off any borrowings and any remaining amounts made available to the Company.

Leasing Facilities

During 2020, the Company entered into a C$5.0 million equipment leasing facility in Canada and a $16.0 million equipment leasing facility in the United States (the “Leasing Facilities”) with RBC, and one of its affiliates, which are available for equipment expenditures and certain equipment expenditures already incurred. Pursuant to the Covenant Holiday Period Extension, the equipment leasing facility in the United States was reduced from US$16 million to US$14 million and the revolving Lease Facilities were amended to be amortizing facilities. The Leasing Facilities, respectively, have seven and five-year terms and bear interest at 4.25% and 5.59%. The U.S. leasing facility is amortized over a six-year term and extendible at the Company’s option for an additional year.

During 2021, the Company received $9.8 million (2020 - $3.5 million) of cash consideration under the U.S. leasing facility related to reimbursements for equipment purchases for its South Carolina Facility. During 2021, the Company received $nil (2020 - C$3.6 million or $2.6 million) of cash consideration under the leasing facility in Canada. The associated financial liabilities are shown on the consolidated balance sheet in current other liabilities and long-term debt and other liabilities.

Convertible Debentures

On January 25, 2021, the Company completed a C$35 million ($27.5 million) bought-deal financing of convertible unsecured subordinated debentures with a syndicate of underwriters. On January 29, 2020, the Company issued a further C$5.25 million ($4.1

million) of convertible debentures under the terms of an overallotment option granted to the underwriters. These convertible debentures will mature and be repayable on January 31, 2026 (the "January Notes Maturity Date") and will accrue interest at the rate of 6.00% per annum payable semi-annually in arrears on the last day of January and July of each year commencing on July 31, 2021 until the January Notes Maturity Date, interest and principal are payable in cash or shares at the option of the Company. These convertible debentures will be convertible into common shares of DIRTT, at the option of the holder, at any time prior to the close of business on the business day prior to the earlier of the January Notes Maturity Date and the date specified by the Company for redemption of these convertible debentures at a conversion price of C$4.65 per common share, being a ratio of approximately 215.0538 common shares per C$1,000 principal amount of convertible debentures. Costs of the transaction were approximately C$2.7 million, including the underwriters' commission.

On November 15, 2021, the Company completed a C$35 million ($27.4 million) bought-deal financing of convertible unsecured subordinated debentures with a syndicate of underwriters. These convertible debentures will mature and be repayable on December 31, 2026 (the "November Notes Maturity Date") and will accrue interest at the rate of 6.25% per annum payable semi-annually in arrears on the last day of June and December of each year commencing on June 30, 2022 until the November Notes Maturity Date, interest and principal are payable in cash or shares at the option of the Company. These convertible debentures will be convertible into common shares of DIRTT, at the option of the holder, at any time prior to the close of business on the business day prior to the earlier of the November Notes Maturity Date and the date specified by the Company for redemption of the convertible debentures at a conversion price of C$4.20 per common share, being a ratio of approximately 238.0952 common shares per C$1,000 principal amount of convertible debentures. Costs of the transaction were approximately C$2.3 million including the underwriters' commission.

13. INCOME TAXES

Reconciliation of income taxes

The following reconciles income taxes calculated at the Canadian statutory rate with the actual income tax expense. The Canadian statutory rate includes federal and provincial income taxes. This rate was used because Canada is the domicile of the parent entity of the Company.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
Net loss before tax	(53,872)	(9,194)	(3,377)
Canadian statutory rate	23.3%	24.2%	26.5%
Expected income tax	**(12,552)**	**(2,225)**	**(895)**
Effect on taxes resulting from:			
Valuation allowance	12,046	5,241	-
Non-deductible expenses	542	261	550
Non-deductible stock-based compensation	189	269	674
Tax rate impacts	(488)	(1,288)	999
Adjustments related to prior year tax filings	59	(105)	(205)
Other	-	(49)	(104)
Income tax expense (recovery)	**(204)**	**2,104**	**1,019**
Current tax expense (recovery)	210	(3,521)	1,064
Deferred tax expense (recovery)	(414)	5,625	(45)
Income tax expense	**(204)**	**2,104**	**1,019**

The provision for income taxes is comprised of federal, state, provincial and foreign taxes based on pre-tax income. In the United States, the CARES Act of 2020 allows, among other provisions, for the recovery of taxes paid over the preceding five years from current year losses.

Deferred tax assets and liabilities

Significant components of the Company's deferred tax assets and liabilities at December 31, 2021 and 2020 were as follows:

	At December 31, 2021		
	Assets	Liabilities	Net
Operating losses	24,032	-	24,032
Research and development expenditures	362	-	362
Property and equipment	-	(7,572)	(7,572)
Capitalized software and other assets	-	(2,023)	(2,023)
Valuation allowance	(17,291)	-	(17,291)
Other	-	2,492	2,492
Net deferred taxes	**7,103**	**(7,103)**	**-**

	At December 31, 2020		
	Assets	Liabilities	Net
Operating losses	9,528	-	9,528
Research and development expenditures	360	-	360
Property and equipment	-	(2,218)	(2,218)
Capitalized software and other assets	-	(4,588)	(4,588)
Valuation allowance	-	(5,330)	(5,330)
Other	1,834	-	1,834
Net deferred taxes	**11,722**	**(12,136)**	**(414)**

Summary of temporary difference movements during the year:

	Balance January 1, 2021	Recognized in Income	Foreign Exchange	Balance December 31, 2021
Operating losses	9,528	14,542	(38)	24,032
Research and development expenditures	360	(87)	89	362
Property and equipment	(4,588)	(2,844)	(140)	(7,572)
Capitalized software and other assets	(2,218)	209	(14)	(2,023)
Valuation allowance	(5,330)	(12,046)	85	(17,291)
Other	1,834	640	18	2,492
Net deferred taxes	**(414)**	**414**	**-**	**-**

	Balance January 1, 2020	Recognized in Income	Foreign Exchange	Balance December 31, 2020
Operating losses	6,899	2,451	178	9,528
Research and development expenditures	353	594	(587)	360
Property and equipment	(1,916)	(3,600)	928	(4,588)
Capitalized software and other assets	(2,345)	251	(124)	(2,218)
Valuation allowance	-	(5,241)	(89)	(5,330)
Other	2,373	(80)	(459)	1,834
Net deferred taxes	**5,364**	**(5,625)**	**(153)**	**(414)**

For the year ended December 31, 2021, the Company recorded valuation allowances of $12.0 million against deferred tax assets ("DTAs") incurred during the year as the Company has experienced cumulative losses in recent years (December 31, 2020 –$5.2 million recorded in the Company's Canadian entity). Although earnings were positive in 2019, ongoing near-term uncertainties on the business caused by the COVID-19 pandemic and the related decline in business activity impacted the Company's ability to generate earnings. Accordingly, it is not more likely than not that the Company's DTAs will be utilized in the near term.

The provincial corporate tax rate in Alberta, Canada was decreased on June 28, 2019 from 11.5% to 11% for the second half of 2019, and was scheduled to further reduce to 10% for 2020, 9% for 2021 and 8% thereafter. As part of Alberta's Recovery Plan, the decrease in provincial tax rates was accelerated such that the provincial corporate tax rate is 8% effective July 1, 2020. As a result of this rate change, DIRTT reduced its DTAs by $0.9 million with a corresponding deferred income tax expense recorded in the second quarter of 2019.

The amount shown on the balance sheet as deferred income tax liabilities represent the net differences between the tax basis and book carrying values on the Company's balance sheet at enacted tax rates.

On an annual basis the Company and its subsidiaries file tax returns in Canada and various foreign jurisdictions. In Canada the Company's federal and provincial tax returns for the years 2018 to 2020 remain subject to examination by taxation authorities. In the United States, both the federal and state tax returns filed for the years 2017 to 2020 remain subject to examination by the taxation authorities.

Tax loss carryforwards and other tax pools

The significant components of the Company's net future income tax deductions in these consolidated financial statements are summarized as follows:

	As at December 31,			
	2021	2020	2021	2020
	Canadian Entity C$		US Entity $	
Non-capital loss carry-forwards	64,961	45,299	42,220	-
Undepreciated capital costs	12,267	13,225	10,268	3,944
Scientific research and experimental development tax incentives	1,971	1,971	-	-
Total future tax deductions	**79,199**	**60,495**	**52,488**	**3,944**

14. STOCK-BASED COMPENSATION

In May 2020, shareholders approved the DIRTT Environmental Solutions Ltd. Long-Term Incentive Plan (the "2020 LTIP") at the annual and special meeting of shareholders. The 2020 LTIP gives the Company the ability to award options, share appreciation rights, restricted share units, restricted shares, dividend equivalent rights granted in connection with restricted share units, vested share awards, and other share-based awards and cash awards to eligible employees, officers, consultants and directors of the Company and its affiliates. In accordance with the 2020 LTIP, the sum of (i) 5,850,000 common shares plus (ii) the number of common shares subject to stock options previously granted under the Company's Amended and Restated Incentive Stock Option Plan (the "Stock Option Plan") that, following May 22, 2020, expire or are cancelled or terminated without having been exercised in full have been reserved for issuance under the 2020 LTIP. Upon vesting of certain LTIP awards, the Company may withhold and sell shares as a means of meeting DIRTT's tax withholding requirements in respect of the withholding tax remittances required in respect of award holders. To the extent the fair value of the withheld shares upon vesting exceeds the grant date fair value of the instrument, the excess amount is credited to retained earnings or deficit.

The Company also maintains the DIRTT Environmental Solutions Ltd. Deferred Share Unit Plan for Non-Employee Directors pursuant to which DSUs are granted to the Company's non-employee directors. DSUs are settled solely in cash.

Prior to the approval of the 2020 LTIP, the Company granted awards of options under the Stock Option Plan and awards of performance share units ("PSUs") under the DIRTT Environmental Solutions Ltd. Performance Share Unit Plan (the "PSU Plan"). Following the approval of the 2020 LTIP, no further awards will be made under either the Stock Option Plan or the PSU Plan, but both remain in place to govern the terms of any awards that were granted pursuant to such plans and remain outstanding

Stock-based compensation expense

	For the Year Ended December 31,		
	2021	2020	2019
Equity-settled awards	4,453	1,832	3,512
Cash-settled awards	260	519	364
	4,713	**2,351**	**3,876**

The following summarizes PSUs, DSUs and RSUs granted, exercised, forfeited and expired during the periods:

	RSU Time-Based	RSU Performance-Based	DSU	PSU
	Number of units	Number of units	Number of units	Number of units
Outstanding at December 31, 2019	**-**	**-**	**132,597**	**223,052**
Granted	2,419,609	200,000	251,470	-
Exercised	-	-	(20,403)	-
Forfeited	(5,546)	-	-	(25,581)
Outstanding at December 31, 2020	**2,414,063**	**200,000**	**363,664**	**197,471**
Granted	1,976,697	878,601	144,969	-
Vested	(661,775)	(2,294)	(147,056)	(34,635)
Withheld to settle employee tax obligations	(174,103)	(1,960)	-	-
Forfeited	(338,346)	(52,608)	-	(5,636)
Outstanding at December 31, 2021	**3,216,536**	**1,021,739**	**361,577**	**157,200**

Restricted share units (time-based vesting)

Restricted share units that vest based on time have an aggregate time-based vesting period of three years and generally one-third of the RSUs vest every year over a three-year period from the date of grant (the “RSU’s”). At the end of a three-year term, the associated RSUs will be settled by way of the provision of cash or shares to employees (or a combination thereof), at the discretion of the Company. The weighted average fair value of the RSUs granted in 2021 was C$2.78 (2020 – C$2.05) which was determined using the closing price of the Company’s common shares on their respective grant dates.

Restricted share units (performance-based vesting)

During 2021, restricted share units were granted to executives with service and performance-based conditions for vesting (the “Performance RSUs” or “PRSUs”), if the Company’s share price increases to certain values for 20 consecutive trading days, as outlined below, a percentage of the PRSUs will vest at the end of the three-year service period.

The 2020 grant was for one executive, if the Company’s share price increases to C$3.00 for 20 consecutive trading days within three years of the grant date, then 50% (100,000) of the Performance RSUs will vest at the end of the three-year service period. If the Company’s share price increases to C$4.00 for 20 consecutive trading days within three years of the grant date, 100% (200,000) of the Performance RSUs will vest at the end of the three-year service period. If the Company’s share price increases to C$6.00 for 20 consecutive trading days within three years of the grant date, then 150% (300,000) of the Performance RSUs will vest at the end of the three-year service period. On January 18, 2022, these awards were forfeited upon the departure of the executive from the Company.

The grant date fair value of the 2021 and 2020 Performance RSUs were valued using the Monte Carlo valuation method and determined to have a weighted average grant date fair value of C$3.27 and C$1.70, respectively.

Based on share price performance since the date of grant, 66.7% of the 2021 PRSUs and 100% of the 2020 PRSUs will vest upon completion of the three-year service period.

	% of PRSUs vesting				
	33.3%	**50.0%**	**66.7%**	**100.0%**	**150.0%**
2021 PRSUs	$3.00	-	$4.00	$5.00	$7.00
2020 PRSUs	-	C$3.00	-	C$4.00	C$6.00

Deferred share units

The fair value of the liability and the corresponding expense is charged to profit or loss at the grant date. Subsequently, at each reporting date between the grant date and settlement date, the fair value of the liability is remeasured with any changes in fair value recognized in profit or loss for the year. DSUs outstanding at December 31, 2021 had a fair value of $0.8 million which is included in other liabilities on the balance sheet (2020 – $0.9 million).

Performance share units

Under the terms of the PSU Plan, PSUs granted vest at the end of a three-year term. At the end of a three-year term, employees will be awarded cash, calculated based on certain Adjusted EBITDA, total shareholder return, or revenue growth related to performance conditions.

The fair value of the liability and the expense attributable to the vesting period is charged to profit or loss at the grant date. Subsequently, at each reporting date between the grant date and settlement date, the fair value of the liability is remeasured with any changes in fair value recognized in profit or loss. As at December 31, 2021, outstanding PSUs had a fair value of $nil which is included in other liabilities on the balance sheet (2020 – $0.1 million).

Options

In 2018, the Company allowed certain vested stock options to be surrendered by their holders for cash. On October 9, 2019, following the listing of its common shares on Nasdaq, the Company ceased permitting the cash-settlement of stock options and the associated liability accounting for stock options. In 2019, $1.8 million was expensed to adjust the liability to fair value, and an additional $0.4 million was charged back to paid-in capital as, for certain stock options, the cumulative expense calculated was lower that the grant date fair value of the original equity awards. During 2019, $3.6 million of stock options were surrendered by their holders for cash.

The following summarizes options granted, exercised, forfeited and expired during the periods:

	Number of options	Weighted average exercise price C$
Outstanding at December 31, 2019	**6,156,652**	**6.49**
Forfeited	(227,368)	6.81
Expired	(1,154,956)	6.29
Outstanding at December 31, 2020	**4,774,328**	**6.52**
Forfeited	(44,102)	7.05
Expired	(665,737)	5.76
Outstanding at December 31, 2021	**4,064,489**	**6.64**
Exercisable at December 31, 2021	**2,079,479**	**6.71**

In 2018, 1,725,000 stock options were granted to an executive with performance conditions for vesting. For 825,000 stock options, vesting is conditioned upon an increase in the Company's share price to C$13.26, and for 900,000 stock options, vesting is conditioned upon an increase in the Company's share price to C$19.89. These options were valued using the Monte Carlo valuation method and determined to have a weighted average grant fair value of C$2.14 on original grant. These awards were accounted for at the fair value attributable to the vesting period until October 9, 2019 when these were reclassified to equity accounting and were re-valued at a weighted average fair value of C$0.83. On January 18, 2022, these awards were forfeited upon the departure of the executive from the Company.

Range of exercise prices outstanding at December 31, 2021:

	Options outstanding			Options exercisable		
Range of exercise prices	Number outstanding	Weighted average remaining life	Weighted average exercise price C$	Number exercisable	Weighted average remaining life	Weighted average exercise price C$
C$4.01 – C$5.00	22,537	2.89	4.12	15,025	2.89	4.12
C$5.01 – C$6.00	-	-	-	-	-	-
C$6.01 – C$7.00	3,281,199	1.79	6.38	1,549,301	1.87	6.36
C$7.01 – C$8.00	760,753	2.37	7.84	515,153	2.37	7.84
Total	**4,064,489**			**2,079,479**		

Range of exercise prices outstanding at December 31, 2020:

	Options outstanding			Options exercisable		
Range of exercise prices	**Number outstanding**	**Weighted average remaining life**	**Weighted average exercise price C$**	**Number exercisable**	**Weighted average remaining life**	**Weighted average exercise price C$**
C$4.01 – C$5.00	22,537	3.89	4.12	7,513	3.89	4.12
C$5.01 – C$6.00	669,236	0.89	5.76	669,236	0.89	5.76
C$6.01 – C$7.00	3,299,993	2.79	6.38	1,126,772	2.93	6.34
C$7.01 – C$8.00	782,562	3.37	7.84	262,417	3.37	7.84
Total	**4,774,328**			**2,065,938**		

The stock options granted had a weighted average grant date fair value of C$2.40 in 2019, estimated using the Black-Scholes option-pricing model with the following assumptions for December 31, 2019: a 3.5 year expected life for all periods, 1.6% risk-free interest rate; a 4.2% expected forfeitures rate; and 39.2% expected volatility. These awards were accounted for using the fair value approach as they were accounted for as liabilities until October 9, 2019 when the Company ceased allowing cash surrenders of stock options. On October 9, 2019, the stock options had a weighted average fair value of C$1.32 estimated using the Black-Scholes option pricing model with the following assumptions: a 2.9 year expected life, 1.4% risk-free interest rate; and 39.2% expected volatility.

Dilutive instruments

For the year ended December 31, 2021, 4.1 million options (2020 – 4.8 million, 2019 – 0.5 million) and 3.4 million RSUs and PRSUs (2020 – 2.7 million, 2019 - nil) and 27.4 million shares which would be issued if the principal amount of the Debentures were settled in our common shares at the year end share price (2020 and 2019 - nil) were excluded from the diluted weighted average number of common shares calculation as their effect would have been anti-dilutive to the net loss per share.

15. REVENUE

In the following table, revenue is disaggregated by performance obligation and timing of revenue recognition. All revenue comes from contracts with customers. See Note 16 for the disaggregation of revenue by geographic region.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
Product	129,031	150,004	215,109
Transportation	13,231	15,491	23,903
License fees from Distribution Partners	738	1,194	1,647
Total product revenue	**143,000**	**166,689**	**240,659**
Installation and other services	4,593	4,818	7,076
	147,593	**171,507**	**247,735**

DIRTT sells its products and services pursuant to fixed-price contracts which generally have a term of one year or less. The transaction price used in determining the amount of revenue to recognize from fixed-price contracts is based upon agreed contractual terms with each customer and is not subject to variability.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
At a point in time	142,262	165,495	239,012
Over time	5,331	6,012	8,723
	147,593	**171,507**	**247,735**

Revenue recognized at a point in time represents the majority of the Company's sales. Revenue is recognized when a customer obtains legal title to the product, which is when ownership of the product is transferred to, or services are delivered to, the customer.

Revenue recognized over time is limited to installation and ongoing maintenance contracts with customers and is recorded as performance obligations are satisfied over the term of the contract.

Contract Liabilities

	As at December 31,		
	2021	**2020**	**2019**
Customer deposits	1,959	1,292	2,436
Deferred revenue	461	527	1,131
Contract liabilities	**2,420**	**1,819**	**3,567**

Contract liabilities primarily relate to deposits received from customers and maintenance revenue from license subscriptions. The balance of contract liabilities was higher as at December 31, 2021 compared to the prior year period mainly due to the timing of orders and payments. Contract liabilities as at December 31, 2020 and 2019, respectively, totaling $1.8 million and $3.6 million were recognized as revenue during 2021 and 2020, respectively.

Sales by Industry

The Company periodically reviews product revenue by industry vertical market to evaluate trends and the success of industry specific sales initiatives. The nature of products sold to the various industries is consistent and therefore the periodic review is focused on sales performance.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
Commercial	84,488	102,245	158,256
Healthcare	30,130	35,400	44,197
Government	16,012	14,128	14,879
Education	11,632	13,722	21,680
License fees from Distribution Partners	738	1,194	1,647
Total product revenue	**143,000**	**166,689**	**240,659**
Service revenue	4,593	4,818	7,076
	147,593	**171,507**	**247,735**

16. SEGMENT REPORTING

The Company has one reportable and operating segment and operates in two principal geographic locations, Canada and the United States. Revenue continues to be derived almost exclusively from projects in North America and predominantly from the United States. The Company's revenue from operations from external customers, based on location of operations, and information about its non-current assets, is detailed below.

Revenue from external customers

	For the Year Ended December 31,		
	2021	**2020**	**2019**
Canada	17,299	18,848	34,085
U.S.	130,294	152,659	213,650
	147,593	**171,507**	**247,735**

Non-current assets, excluding deferred tax assets

	As at December 31,	
	2021	**2020**
Canada	34,912	42,947
U.S.	60,723	55,352
	95,635	**98,299**

(1) Amounts include property, plant and equipment, capitalized software, operating lease right-of-use assets, goodwill and other assets. Goodwill was included in the Canadian segment.

17. COMMITMENTS

As at December 31, 2021, the Company had outstanding purchase obligations of approximately $3.7 million related to inventory and property, plant and equipment purchases (December 31, 2020 – $3.2 million). Refer to Note 5 for lease commitments.

18. LEGAL PROCEEDINGS

The Company is pursuing multiple lawsuits against its former founders, Mogens Smed and Barrie Loberg, their new company Falkbuilt Ltd. (“Falkbuilt”), and other related individual and corporate defendants for violations of fiduciary duties and non-competition and non-solicitation covenants contained in their executive employment agreements, and the misappropriation of DIRTT’s confidential and proprietary information in violation of numerous Canadian and U.S. state, and federal laws pertaining to the protection of DIRTT’s trade secrets and proprietary information and the prevention of false advertising and deceptive trade practices.

As of December 31, 2021, the Company’s litigation against Falkbuilt, Messrs. Smed and Loberg, and their associates was comprised of four main lawsuits: (i) an action in the Alberta Court of Queen’s Bench instituted on May 9, 2019 against Falkbuilt, Messrs. Smed and Loberg, and several other former DIRTT employees alleging breaches of restrictive covenants, fiduciary duties, and duties of loyalty, fidelity and confidentiality, and the misappropriation of DIRTT’s confidential information (the “Canadian Non-Compete Case”); (ii) an action in the U.S. District Court for the Northern District of Utah instituted on December 11, 2019 against Falkbuilt, Smed, and other individual and corporate defendants alleging misappropriation of DIRTT’s confidential information, trade secrets, business intelligence and customer information (the “Utah Misappropriation Case”); (iii) an action for federal patent infringement in the U.S. District Court for the Northern District of Illinois instituted on August 6, 2020 against Falkbuilt, alleging that Falkbuilt is infringing certain of DIRTT’s patents relating to our proprietary ICE® software (the “Patent Infringement Case”); and (iv) an action in the U.S. District Court for the Northern District of Texas instituted on June 24, 2021 alleging that Falkbuilt has unlawfully used DIRTT’s confidential information in the United States and intentionally caused confusion in the United States in an attempt to steal customers, opportunities, and business intelligence, with the aim of establishing a competing business in the United States market (the “Texas Unfair Competition Case”). DIRTT intends to pursue the cases vigorously.

Falkbuilt also filed a lawsuit against the Company on November 5, 2019 in the Court of Queen’s Bench of Alberta, alleging that DIRTT has misappropriated and misused their alleged proprietary information in furtherance of DIRTT’s product development. Falkbuilt seeks monetary relief and an interim, interlocutory and permanent injunction of DIRTT’s alleged use of the alleged proprietary information. The Company believes that the suit is without merit and filed an application for summary judgement to dismiss Falkbuilt’s claim.

No amounts are accrued for the above legal proceedings.

19. SUBSEQUENT EVENTS

On February 22, 2022, the Company announced the intention to close its Phoenix facility, as well as an 18% reduction in the Company’s salaried workforce. One-time costs associated with these reductions, to be incurred in the first half of 2022, are expected to be approximately $5.0 million.

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

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Disclosure controls and procedures are controls and other procedures that are designed to ensure that information required to be disclosed in our reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in the Company's reports filed or submitted under the Exchange Act is accumulated and communicated to management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

As required by Rule 13a-15 under the Exchange Act, our principal executive officer and principal financial officer carried out an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as of December 31, 2021. Based upon their evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) were effective.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) and 15(d)-15(f) under the Exchange Act, as amended. Our management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the 2013 framework in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO framework) to evaluate the effectiveness of internal control over financial reporting. Management believes that the COSO framework is a suitable framework for its evaluation of financial reporting because it is free from bias, permits reasonably consistent qualitative and quantitative measurements of our internal control over financial reporting, is sufficiently complete so that those relevant factors that would alter a conclusion about the effectiveness of our internal control over financial reporting are not omitted and is relevant to an evaluation of internal control over financial reporting.

Based on its evaluation under the framework in Internal Control—Integrated Framework, our management concluded that the Company maintained effective internal control over financial reporting at a reasonable assurance level as of December 31, 2021, based on those criteria.

Changes in Internal Control Over Financial Reporting

There have been no changes in our internal control over financial reporting (as defined in Rule 13a-15(f) and 15(d)-15(f) under the Exchange Act) during the quarter ended December 31, 2021, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this Item is incorporated herein by reference to the information that will be contained in our information circular and proxy statement (“proxy statement”) related to the 2022 Annual Meeting of Shareholders, which we intend to file with the SEC within 120 days of the end of our fiscal year pursuant to General Instruction G(3) of Form 10-K.

Item 11. Executive Compensation.

The information required by this Item is incorporated herein by reference to the information that will be contained in our proxy statement related to the 2022 Annual Meeting of Shareholders, which we intend to file with the SEC within 120 days of the end of our fiscal year pursuant to General Instruction G(3) of Form 10-K.

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

The information required by this Item is incorporated herein by reference to the information that will be contained in our proxy statement related to the 2022 Annual Meeting of Shareholders, which we intend to file with the SEC within 120 days of the end of our fiscal year pursuant to General Instruction G(3) of Form 10-K.

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

The information required by this Item is incorporated herein by reference to the information that will be contained in our proxy statement related to the 2022 Annual Meeting of Shareholders, which we intend to file with the SEC within 120 days of the end of our fiscal year pursuant to General Instruction G(3) of Form 10-K.

Item 14. Principal Accounting Fees and Services.

The information required by this Item is incorporated herein by reference to the information that will be contained in our proxy statement related to the 2022 Annual Meeting of Shareholders, which we intend to file with the SEC within 120 days of the end of our fiscal year pursuant to General Instruction G(3) of Form 10-K.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a) The following documents are filed as part of the report:

(1) Financial Statements

Report of Independent Registered Public Accounting Firm

Consolidated Balance Sheets, as at December 31, 2021 and 2020

Consolidated Statements of Operations and Comprehensive Loss for the Years Ended December 31, 2021, 2020 and 2019

Consolidated Statements of Changes in Shareholders' Equity for the Years Ended December 31, 2021, 2020 and 2019

Consolidated Statements of Cash Flows for the Years Ended December 31, 2021, 2020 and 2019

Notes to the Consolidated Financial Statements

(2) Financial Statement Schedules

All schedules have been omitted as they are either not required or not applicable or the required information is included in the Consolidated Financial Statements or notes thereto.

(3) See Item 15(b)

(b) Exhibits:

Exhibit No.	Exhibit or Financial Statement Schedule
3.1	Restated Articles of Amalgamation of DIRTT Environmental Solutions Ltd. (incorporated by reference to Exhibit 3.1 to the Registrant's Registration Statement on Form 10, File No. 001-39061, filed on September 20, 2019).
3.2	Amended and Restated Bylaw No.1 of DIRTT Environmental Solutions Ltd. (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, File No. 001-39061, filed on May 22, 2020).
4.1	Description of Registrant's Securities (incorporated by reference to Exhibit 4.2 to the Registrant's Annual Report on Form 10-K, File No. 001-39061, filed on February 26, 2020).
4.2	Base Indenture, dated January 25, 2021, by and among DIRTT Environmental Solutions Ltd., Computershare Trust Company of Canada and Computershare Trust Company, National Association as Trustees (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, File No. 001-39061, filed on January 29, 2021).
4.3	Supplemental Indenture, dated January 25, 2021, by and among the Company, Computershare Trust Company of Canada and Computershare Trust Company, National Association as Trustees (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, File No. 001-39061, filed on January 29, 2021).
4.4	Second Supplemental Indenture, dated December 1, 2021, by and among the Company, Computershare Trust Company of Canada and Computershare Trust Company, National Association as Trustees (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, File No. 001-39061, filed on December 1, 2021).
4.5	Rights Agreement, dated as of December 7, 2021, by and between DIRTT Environmental Solutions Ltd. and Computershare Trust Company of Canada, as rights agent (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, File No. 001-39061, filed on December 8, 2021).
10.1+#	Loan Agreement, dated February 12, 2021, by and among the Royal Bank of Canada, DIRTT Environmental Solutions Ltd. and DIRTT Environmental Solutions, Inc., as borrowers (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, File No. 001-39061, filed on February 19, 2021).
10.2+#	First Amendment and Consent to Loan Agreement, dated November 15, 2021, by and among the Royal Bank of Canada, as lender, and DIRTT Environmental Solutions Ltd. and DIRTT Environmental Solutions, Inc., as borrowers (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, File No. 001-39061, filed on November 23, 2021).

Exhibit No.	Exhibit or Financial Statement Schedule
10.3+	Amended and Restated Incentive Stock Option Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Registration Statement on Form 10, File No. 001-39061, filed on September 20, 2019).
10.4+	DIRTT Environmental Solutions Ltd. Long-Term Incentive Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, File No. 001-39061, filed on May 22, 2020).
10.5+	Form of Option Award Agreement Under the DIRTT Environmental Solutions Ltd. Long-Term Incentive Plan (incorporated by reference to Exhibit 4.4 to the Registrant's Registration Statement on Form S-8, File No. 333-238689, filed on May 26, 2020).
10.6+	Form of Time-Based Restricted Share Unit Award Agreement Under the DIRTT Environmental Solutions Ltd. Long-Term Incentive Plan (incorporated by reference to Exhibit 4.5 to the Registrant's Registration Statement on Form S-8, File No. 333-238689, filed on May 26, 2020).
10.7+	Form of Performance-Based Restricted Share Unit Award Agreement Under the DIRTT Environmental Solutions Ltd. Long-Term Incentive Plan (incorporated by reference to Exhibit 4.6 to the Registrant's Registration Statement on Form S-8, File No. 333-238689, filed on May 26, 2020).
10.8+	Deferred Share Unit Plan for Non-Employee Directors (incorporated by reference to Exhibit 10.4 to the Registrant's Registration Statement on Form 10, File No. 001-39061, filed on September 20, 2019).
10.9+	DIRTT Environmental Solutions Ltd. Amended and Restated Employee Share Purchase Plan (incorporated by reference to Exhibit 4.4 to the Registrant's Registration Statement on Form S-8, File No. 333-234143, filed on October 9, 2019).
10.10+	Executive Employment Agreement, dated September 8, 2018, by and between DIRTT Environmental Solutions Ltd. and Kevin O'Meara (incorporated by reference to Exhibit 10.7 to the Registrant's Registration Statement on Form 10, File No. 001-39061, filed on September 20, 2019).
10.11+	Amended and Restated Executive Employment Agreement, dated July 4, 2018, by and between DIRTT Environmental Solutions Ltd. and Geoffrey Krause (incorporated by reference to Exhibit 10.9 to the Registrant's Registration Statement on Form 10, File No. 001-39061, filed on September 20, 2019).
10.12+	Executive Employment Agreement, dated February 27, 2019, by and between DIRTT Environmental Solutions Ltd. and Jeffrey A. Calkins (incorporated by reference to Exhibit 10.10 to the Registrant's Registration Statement on Form 10, File No. 001-39061, filed on September 20, 2019).
10.13+	Executive Employment Agreement, dated January 15, 2019, by and between DIRTT Environmental Solutions Ltd. and Mark Greffen (incorporated by reference to Exhibit 10.14 to the Registrant's Registration Statement on Form 10, File No. 001-39061, filed on September 20, 2019).
10.14+	Employment Agreement, dated August 31, 2019, by and between DIRTT Environmental Solutions Ltd. and Jennifer Warawa (incorporated by reference to Exhibit 10.15 to the Registrant's Registration Statement on Form 10, File No. 001-39061, filed on September 20, 2019).
10.15+	Employment Agreement, dated March 13, 2020, by and between DIRTT Environmental Solutions, Inc. and Charles R. Kraus (incorporated by reference to Exhibit 10.2 to the Registrant's Form 10-Q, File No. 001-39061, filed on May 6, 2020).
10.16+	Indemnity Agreement, dated August 1, 2020, between the Company and Shauna R. King, together with a schedule identifying other substantially identical agreements between the Company and each of the other persons identified on the schedule (incorporated by reference to Exhibit 10.16 to the Registrant's Annual Report on Form 10-K, File No. 001-39061, filed on February 24, 2021).
10.17#	Industrial Lease, dated September 15, 2012, by and between Piret (7303-30th Street SE) Holdings Inc. and DIRTT Environmental Solutions Ltd. (incorporated by reference to Exhibit 10.23 to the Registrant's Registration Statement on Form 10, File No. 001-39061, filed on September 20, 2019).

Exhibit No.	Exhibit or Financial Statement Schedule
10.18#	Agreement of Lease, dated November 5, 2013, by and between Dundee Industrial Twofer (GP) Inc. and DIRTT Environmental Solutions Ltd., as amended by the Lease Amending Agreement, dated October 21, 2016, by and between Dream Industrial Twofer (GP) Inc. (formerly known as Dundee Industrial Twofer (GP) Inc.) and DIRTT Environmental Solutions Ltd. (incorporated by reference to Exhibit 10.24 to the Registrant's Registration Statement on Form 10, File No. 001-39061, filed on September 20, 2019).
10.19#	Lease of Industrial Space, dated February 12, 2015, by and between Hoopp Realty Inc./Les Immeubles Hoopp Inc., by its duly authorized agent, Triovest Realty Advisors Inc., and DIRTT Environmental Solutions Ltd., as amended by the Amendment of Lease, dated April 16, 2015, the Lease Modification Agreement, dated October 27, 2015, the Third Amendment of Lease, dated November 12, 2015, and the Fourth Amendment of Lease, dated January 8, 2016 (incorporated by reference to Exhibit 10.25 to the Registrant's Registration Statement on Form 10, File No. 001-39061, filed on September 20, 2019).
10.20#	Lease Agreement, dated March 29, 2011, by and between EastGroup Properties, L.P. and DIRTT Environmental Solutions, Inc. (incorporated by reference to Exhibit 10.26 to the Registrant's Registration Statement on Form 10, File No. 001-39061, filed on September 20, 2019).
10.21#	Lease, dated July 1, 2015, by and between Majik Ventures, L.L.C. and DIRTT Environmental Solutions, Inc., as amended by the First Amendment to Lease, dated May 11, 2017, by and between CAM Investment 352 LLC and DIRTT Environmental Solutions, Inc. (incorporated by reference to Exhibit 10.27 to the Registrant's Registration Statement on Form 10, File No. 001-39061, filed on September 20, 2019).
10.22#	Industrial Lease Agreement, dated October 2, 2008, by and between 141 Knowlton Way, LLC and DIRTT Environmental Solutions, Inc., as amended by the First Amendment to Industrial Lease Agreement, dated March 11, 2009, and the Second Amendment to Industrial Lease Agreement, dated August 23, 2018, by and between SH7-Savannah, LLC and DIRTT Environmental Solutions, Inc. (incorporated by reference to Exhibit 10.28 to the Registrant's Registration Statement on Form 10, File No. 001-39061, filed on September 20, 2019).
10.23#	Lease Agreement, dated October 7, 2019, by and between DIRTT Environmental Solutions, Inc. and SP Rock Hill Legacy East #1, LLC (incorporated by reference to Exhibit 10.4 to the Registrant's Form 10-Q, File No. 001-39061, filed on November 7, 2019).
10.24#	Second Amendment to Lease made as of the 6th day of July, 2020, by and between SP ROCK HILL LEGACY EAST #1, LLC, an Indiana limited liability company, and DIRTT ENVIRONMENTAL SOLUTIONS, INC., a Colorado corporation (incorporated by reference to Exhibit 10.4 to the Registrant's Form 10-Q, File No. 001-39061, filed on July 29, 2020).
10.25#	Lease Agreement between Tennyson Campus Owner, LP and DIRTT Environmental Solutions, Inc. dated March 4, 2020 (incorporated by reference to Exhibit 10.1 to the Registrant's Form 10-Q, File No. 001-39061, filed on May 6, 2020).
10.26	Letter Agreement, dated as of January 18, 2022, by and between Todd W. Lillibridge and DIRTT Environmental Solutions Ltd. (incorporated by reference to Exhibit 10.1 to the Registrant's Form 8-K, File No. 001-39061, filed on January 19, 2022).
10.27	Letter Agreement, dated January 7, 2021, by and among DIRTT Environmental Solutions Ltd., DIRTT Environmental Solutions, Inc. and Royal Bank of Canada (incorporated by reference to Exhibit 1.1 to the Registrant's Current Report on Form 8-K, File No. 001-39061, filed on January 13, 2021).
10.28+	Indemnification Agreement, by and between DIRTT Environmental Solutions Ltd. and James A. Lynch, dated March 22, 2021 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, File No. 001-39061, filed on March 23, 2021).
10.29+	Indemnification Agreement, by and between DIRTT Environmental Solutions Ltd. and Diana R. Rhoten, dated March 22, 2021 (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, File No. 001-39061, filed on March 23, 2021).

Exhibit No.	Exhibit or Financial Statement Schedule
21.1*	Subsidiaries of DIRTT Environmental Solutions Ltd.
23.1*	Consent of PricewaterhouseCoopers, L.L.P., independent registered public accounting firm.
31.1*	Certification of the Principal Executive Officer required by Rule 13a-14(a) or Rule 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of the Principal Financial Officer required by Rule 13a-14(a) or Rule 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certification of the Principal Executive Officer required by 18 U.S.C. 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2**	Certification of the Principal Financial Officer required by 18 U.S.C. 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	Inline XBRL Instance Document
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Filed herewith.
** Furnished herewith.
\+ Compensatory plan or agreement.
\# Specific terms in this exhibit (indicated therein by asterisks) have been omitted because such terms are both not material and would likely cause competitive harm to the Company it publicly disclosed.

Item 16. Form 10-K Summary

None.

SIGNATURES

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

DIRTT ENVIRONMENTAL SOLUTIONS LTD.

Date: February 23, 2022

By:/s/ Todd Lillibridge
Name: Todd Lillibridge
Title: Interim Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Report has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Todd W. Lillibridge Todd W. Lillibridge	Interim Chief Executive Officer and Director *(Principal Executive Officer)*	February 23, 2022
/s/ Geoffrey D. Krause Geoffrey D. Krause	Chief Financial Officer *(Principal Financial Officer and Principal Accounting Officer)*	February 23, 2022
/s/ Michael Ford Michael Ford	Director	February 23, 2022
/s/ Denise Karkkainen Denise Karkkainen	Director	February 23, 2022
/s/ Shauna King Shauna King	Director	February 23, 2022
/s/ Jim Lynch Jim Lynch	Director	February 23, 2022
/s/ Steven Parry Steven Parry	Director	February 23, 2022
/s/ Diana Rhoten Diana Rhoten	Director	February 23, 2022

Exhibit 21.1

DIRTT Environmental Solutions Ltd.

List of Subsidiaries

Name	Jurisdiction of Organization
DIRTT Environmental Solutions, Inc.	Colorado

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (File Nos. 333-234143 and 333-238689) and Form S-3 (No. 333-251660) of DIRTT Environmental Solutions Ltd. of our report dated February 23, 2022 relating to the consolidated financial statements, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

Chartered Professional Accountants
Calgary, Alberta, Canada
February 23, 2022

Exhibit 31.1

CERTIFICATION
PURSUANT TO EXCHANGE ACT RULE 13A-14(a) OR RULE 15D-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Todd Lillibridge, certify that:

1. I have reviewed this Annual Report on Form 10-K of DIRTT Environmental Solutions Ltd. (the "registrant") for the year ended December 31, 2021;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: February 23, 2022

By: /s/ Todd Lillibridge
Todd Lillibridge
Interim Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION
PURSUANT TO EXCHANGE ACT RULE 13A-14(a) OR RULE 15D-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Geoffrey D. Krause, certify that:

1. I have reviewed this Annual Report on Form 10-K of DIRTT Environmental Solutions Ltd. (the "registrant") for the year ended December 31, 2021;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: February 23, 2022

By: /s/ Geoffrey D. Krause
Geoffrey D. Krause
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION
PURSUANT TO 18 U.S.C. § 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-K of DIRTT Environmental Solutions Ltd. (the "Company") for the year ended December 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Todd Lillibridge, Interim Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: February 23, 2022

By: /s/ Todd Lillibridge
Todd Lillibridge
Interim Chief Executive Officer
(*Principal Executive Officer*)

Exhibit 32.2

CERTIFICATION
PURSUANT TO 18 U.S.C. § 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-K of DIRTT Environmental Solutions Ltd. (the “Company”) for the year ended December 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Geoffrey D. Krause, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: February 23, 2022

By: /s/ Geoffrey D. Krause
Geoffrey D. Krause
Chief Financial Officer
(*Principal Financial Officer*)

DIRTT **Board Of Directors**

TODD W. LILLIBRIDGE
DIRTT Board Chair and Interim President and Chief Executive Officer
President & Chief Executive Officer, TWL Enterprises LLC
Elected 2017

DENISE E. KARKKAINEN
Corporate Director
Elected 2015
Audit Committee
Compensation Committee
Nominating and Governance Committee

JAMES (JIM) A. LYNCH
Senior Vice President & General Manager, Autodesk Construction Solutions, Autodesk
Elected 2021
Audit Committee
Nominating and Governance Committee

DIANA R. RHOTEN
Design and Innovation Strategist, ∂ifferential design
Elected 2021
Compensation Committee
Nominating and Governance Committee

MICHAEL T. FORD
DIRTT Interim Independent Lead Director
Corporate Vice President Global Real Estate and Security, Microsoft Corporation
Elected 2020
Audit Committee

SHAUNA R. KING
Corporate Director
Elected 2020
Audit Committee

STEVE E. PARRY
President, Skara Brae Strategy Consultants
Elected 2011
Compensation Committee

DIRTT **Executive Officers**

TODD W. LILLIBRIDGE
Interim President and Chief Executive Officer

JEFFREY A. CALKINS
Chief Operating Officer

MARK C. GREFFEN
Chief Technology Officer

CHARLES R. KRAUS
Senior Vice President, General Counsel and Corporate Secretary

GEOFFREY D. KRAUSE
Chief Financial Officer

JENNIFER L. WARAWA
Chief Commercial Officer

Corporate **Information**

CORPORATE HEADQUARTERS
7303 30th Street S.E.
Calgary, Alberta, Canada T2C 1N6
(403) 723-5000

ANNUAL MEETING
The Annual and Special Meeting of Shareholders will be held in person and virtually on
Tuesday, April 26, 2022 at 10:00 am (MDT).

STOCK EXCHANGE LISTING
The Nasdaq Global Select Market, Ticker Symbol: DRTT
The Toronto Stock Exchange, Ticker Symbol: DRT

TRANSFER AGENT AND REGISTRAR
Computershare Trust Company of Canada

Physical Address
100 University Avenue
8th Floor
Toronto, Ontario, Canada
M5J 2Y1
(416) 263-9200

Mailing Address
135 West Beaver Creek
P.O. Box 300
Richmond Hill, Ontario, Canada
L4B 4R5

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM
PricewaterhouseCoopers LLP
Suite 3100, 111-5th Avenue SW
Calgary, Alberta, Canada T2P 5L3
(403) 509-7500

Special Note Regarding Forward-Looking Statements

Our Letter to Shareholders contains various statements, including estimates, projections, objectives and expected results, which are “forward-looking statements” and “forward-looking information” within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933, Section 21E of the Securities Exchange Act of 1934 and within the meaning of applicable Canadian securities laws (collectively, “forward-looking statements”) and are generally identified by the words “believe,” “expect,” “anticipate,” “intend,” “opportunity,” “plan,” “project,” “will,” “should,” “could,” “would,” “likely” and similar expressions. Forward-looking statements are based upon assumptions as to future events that may not prove to be accurate. Actual outcomes and results may differ materially from what is expressed or forecast in these forward-looking statements. Risks, uncertainties and other factors that might cause such differences, some of which could be material, include, but are not limited to, the factors discussed in our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q under the sections entitled “Risk Factors.” Our forward-looking statements speak only as of the date hereof or as of the date they are made, and we undertake no obligation to update them, unless required under applicable securities laws.