

The background of the cover features a dark, high-contrast image of a quantum annealing chip, showing its intricate circuitry and circular components. Overlaid on this are several glowing, curved lines in shades of cyan and orange, each composed of small dots connected by thin lines, creating a sense of dynamic movement and data flow. The overall aesthetic is futuristic and technical.

D-WAVE QUANTUM INC.
ANNUAL REPORT 2023



ANNUAL REPORT 2023

Dear Stockholders,

D-Wave's momentum is undeniable, and our achievements reflect remarkable traction and progress across every part of our business – substantive product advancements, ground-breaking scientific results, and impressive commercial traction.

We're leading the transition from an academic endeavor exploring quantum's potential to enterprise-scale adoption and deployment, solving our world's toughest problems. Years ago, we made a strategic decision to bring to market a different type of quantum technology – annealing quantum computing – which we believe is now proven to be able to solve important real-world problems that cannot be solved classically. This gives us a first-mover advantage that we believe no other company in the world can claim. While the rest of the industry is focused on building gate model systems that we don't believe will solve real-world problems for many years, we're in the market now, helping customers derive ROI from quantum solutions. Our quantum technology is built to address today's business challenges. It is commercial-grade, production-ready and cloud-accessible. It is solving real-world problems right now in applications as diverse as employee scheduling, supply chain logistics, manufacturing processes, marketing campaign optimization, and more.

As the world's toughest problems are only getting tougher, customers cannot wait another five years for solutions. This isn't about future potential. This is about quantum-powered solutions that drive better business outcomes now. We believe D-Wave is the only company doing it today, leading the commercialization of quantum computing and, in turn, driving value for our customers, partners and stockholders.

Research Shows D-Wave's Technology Outperforms Classical

The ultimate demonstration of quantum's superior capability over classical computing is known as "quantum supremacy." This is the objective of any company working in quantum – to harness the power of quantum technology to develop and deliver products that can't be matched by today's classical supercomputers. It is an achievement of monumental significance, and we believe D-Wave is the first company in the world to demonstrate quantum supremacy on real-world problems. This groundbreaking work was achieved using our latest generation Advantage2™ quantum computer. We have shown that our Advantage2 system can solve problems that cannot be solved classically. The research allows us to simulate the quantum dynamics of magnetic materials without fabricating those magnetic materials. This class of problems is relevant to industrial optimization, machine learning, and quantum material simulation – the same kinds of use cases our customers are tackling. D-Wave is currently pursuing peer-reviewed publication of this research in a leading scientific journal. Looking at 2024 and beyond, we will continue our aggressive efforts to advance quantum science for the benefit of our customers, the industry and the broader scientific community.



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Product Roadmap Delivers Highly Performant Solutions across the Quantum Tech Stack

The quantum supremacy work was achieved using our 1,200+ qubit Advantage2 prototype. We recently launched that prototype in the market, and customers can now access it using our Leap™ real-time quantum cloud service. Since we made the prototype available over a month ago, more than 100,000 problems have been submitted, showing our customers' excitement in using this technology now. With 1,200+ qubits and 10,000+ couplers, the new Advantage2 prototype has double the number of qubits and couplers compared to the previously released Advantage2 prototype. Benchmarks demonstrate substantial advancements across a number of performance metrics compared to our earlier generation Advantage™ quantum processing unit, including: increased qubit connectivity from 15 to 20-way connectivity to enable solutions to larger problems; increased energy scale by more than 40% to deliver higher-quality solutions; and doubled qubit coherence time, which will drive faster time-to-solution. We expect that this system will be a game-changer for our customers.

We are also exploring the combination of our quantum computing technology with AI to see how the joint technologies may fuel breakthroughs with the potential to transform every industry. To accelerate that market impact, we announced a multi-year strategic deal with Zapata AI to advance quantum-enabled machine learning. The partnership centers on joint technical development and commercial deployment of applications that bring together quantum and generative AI to tackle customers' highly complex computational problems. Our combined work is initially focused in life sciences, building quantum generative AI models that accelerate the discovery of new molecules. Beyond life sciences, we see great opportunities to exploit the full potential of quantum for AI applications across a multitude of industries. We're already seeing promise in achieving faster training times and improved model performance, outperforming classical methods in certain tasks. The benefits extend to energy consumption as well. Our annealing quantum computing technology has been shown to be more energy efficient than classical computing, including in the development of advanced AI models. This means that quantum computing has the potential to supercharge AI algorithms without consuming enormous amounts of energy, an important consideration for corporate sustainability and costs.

In addition to the progress we've made with our annealing quantum computing system, we are continuing our efforts in building a gate model system, where we're focusing qubit development on coherence and system development on a scalable approach to packaging. As a testament to our technical leadership, we recently announced notable progress in the development of high coherence qubits, which are qubits capable of doing quantum computations for a longer period of time without errors. We've designed, manufactured, and operated fluxonium qubits that have demonstrated quantum properties comparable to the best seen to date in scientific literature. The measured coherence properties, with relaxation times in excess of 100 microseconds, are comparable to the current state-of-the-art for such qubits. In addition, the measured effective temperature of these fluxonium qubits, 18 millikelvin, is among the best reported in the scientific literature to date for superconducting qubits. We expect these achievements to have a significant impact on our future quantum technologies, including our gate model efforts.

Turning to software, more than 50 million problems have been run on our Advantage annealing quantum computers directly and through our cloud-based hybrid solvers since September 2020. Our Leap quantum cloud service is available in 39 countries, providing customers with immediate access to our quantum computing system and solvers to tackle problems whenever needed. We've also recently introduced algorithmic updates to our hybrid solvers to address a specific type of binary problem, implemented organization administration to help customers streamline project management, and secured SOC 2® Type 2 compliance for our Leap service, an important metric for customer data protection.



Growing Commercial Traction Evident in Revenue, Bookingsⁱ and Production Deployments

Commercial demand for our technology remains strong and is accelerating. In 2023, revenue from commercial customers increased by 41% over the prior year, and we had nearly 80 commercial customers, including over two dozen Forbes Global 2000 enterprises. In addition, we've seen solid bookings growth – with Q4 bookings up 34% on a year-over-year basis and 2023 bookings increasing by 89% over 2022 bookings. We expect that trend to continue in the first quarter of fiscal 2024 with at least \$4.3 million in Q1 bookings that reflects a minimum 36% growth over the immediately preceding fourth quarter of fiscal 2023, and 47% growth over the year earlier first quarter of fiscal 2023. If our expectations are accurate, Q1 2024 will represent the Company's eighth consecutive quarter of year-over-year growth in quarterly bookings.

D-Wave is the first quantum computing company to bring customer applications into production – meaning the applications have been deployed to power daily operations of our customers. We're excited to see two customer applications running in production now and expect several additional applications to move into production in 2024. These applications are helping customers achieve impactful cost and time savings and, at the same time, represent important revenue opportunities for D-Wave. Going into production means these customers will need constant and consistent interaction with D-Wave's quantum computing system – ranging from every few minutes or seconds to weekly – in order to help run their operations. Unlike building proofs of concept, in-production applications represent recurring Quantum Computing as a Service (QCaaS) revenue for us, expected over multiple years.

Our nearly 80 commercial customers are using D-Wave quantum technologies to address a wide variety of pressing and ubiquitous business challenges today, including supply chain optimization, port optimization, employee scheduling, missile defense, and portfolio optimization. A sampling of our customer engagements include:

- **Davidson Technologies** – developing applications that advance national security efforts, including interceptor assignment and radar scheduling
- **Interpublic Group** – creating applications that optimize marketing campaigns, with a pilot underway for one of its top 20 clients
- **Mastercard** - building a variety of quantum-hybrid applications that will address customer loyalty and rewards, cross-border settlement, and fraud detection
- **Pattison Food Group** – deploying production applications for grocery optimization and e-commerce delivery efficiency
- **QuantumBasel and VINCI Energies** – creating applications that ensure efficient and sustainable construction and operation of buildings



Go-to-Market Growth Strategy Designed to Accelerate Adoption, Revenue

Our newly launched go-to-market (GTM) growth strategy is designed to increase sales and expedite customer applications transition to production. Initially focused on key verticals, including supply chain logistics, manufacturing and government, we believe that this new GTM approach will better position us to serve markets that are ready to capitalize on the tangible benefits of our quantum computing solutions right now. This strategy spans every corner of the company – from sales and marketing to product development to recruiting and more. To lead this effort, we've hired our first chief revenue officer, Lorenzo Martinelli, a 30-year cloud enterprise software executive with a proven track record of delivering market-leading, high-ROI solutions that generate strong revenue growth.

On the government front, we're seeing growing interest and momentum with the public sector. First, we've received a positive response on our quantum supremacy work from governments around the world, which acknowledge the significance of the achievement. Second, we've started new engagements with Canadian and U.K. governments to build applications using our Advantage quantum computing system. We're also seeing increased government interest in training to prepare for a quantum-ready workforce. Finally, there is a growing call by policy makers to support quantum annealing and quantum-hybrid technology in global quantum programs. Governments are recognizing how imperative it is that they invest in quantum now to achieve and/or maintain global competitiveness.

Key to our GTM efforts is an increased focus on partners to broaden our reach and potential customer footprint in the identified target verticals and beyond. Recently we announced partnerships with NEC Australia and Deloitte Canada to expedite the exploration and adoption of quantum computing solutions among governments and businesses in those respective regions. In addition, we'll soon formalize our overall partner program to expedite onboarding of new partners and drive quantum technology adoption and revenue growth.

The Road Ahead

I couldn't be more excited by the progress we're making. It isn't easy to build an entirely new industry, but we're doing it and leading the way. Our hardware and software solutions are delivering highly performant, production-scale and commercial-grade solutions. Businesses are using our technologies in-production to fuel daily operations and reap the tangible benefits quantum can bring. We're showing the world through our research how quantum can outperform classical, full stop. And we've built the third-largest quantum-related IP patent portfolio in the world, a testament to our team's incredible spirit of innovation.

D-Wave is out front, blazing the trail for the commercialization of quantum. It's an incredible time for the company. Thank you for being a part of history with us.

Dr. Alan Baratz
President and CEO
D-Wave Quantum Inc.



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Forward-Looking Statements

Certain statements in this shareholder letter are forward-looking, as defined in the Private Securities Litigation Reform Act of 1995. These statements involve risks, uncertainties, and other factors that may cause actual results to differ materially from the information expressed or implied by these forward-looking statements and may not be indicative of future results. These forward-looking statements are subject to a number of risks and uncertainties, including, among others, various factors beyond management's control, including the risks set forth under the heading "Risk Factors" discussed under the caption "Item 1A. Risk Factors" in Part I of our most recent Annual Report on Form 10-K or any updates discussed under the caption "Item 1A. Risk Factors" in Part II of our Quarterly Reports on Form 10-Q and in our other filings with the SEC. Undue reliance should not be placed on the forward-looking statements in this shareholder letter in making an investment decision, which are based on information available to us on the date hereof. We undertake no duty to update this information unless required by law.

¹ "Bookings" is an operating metric that is defined as customer orders received that are expected to generate net revenues in the future. We present the operational metric of Bookings because it reflects customers' demand for our products and services and to assist readers in analyzing our potential performance in future periods.

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

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2023

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 001-41468

D-Wave Quantum Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

88-1068854

(I.R.S. Employer Identification No.)

2650 East Bayshore Road, Palo Alto, California

(Address of Principal Executive Offices)

94303

(Zip Code)

(604) 630-1428

(Address, including zip code, and telephone number, including area code, of principal executive offices)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value \$0.0001 per share	QBTS	New York Stock Exchange
Warrants, each whole warrant exercisable for 1.4541326 shares of common stock at an exercise price of \$11.50	QBTS.WT	New York Stock Exchange

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes No

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted and posted 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 and post 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	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input checked="" type="checkbox"/>

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.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of any error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant’s executive officers during the relevant recovery period pursuant to § 240.10D-1(b).

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 common stock held by non-affiliates of the registrant (60,230,712 shares) based on the closing price of the registrant’s common stock as reported on the New York Stock Exchange on June 30, 2023 was \$125,882,188. For purposes of this computation, all officers, directors and holders of more than 10% of our common stock have been excluded in that such persons may be deemed to be affiliates. Such determination should not be deemed to be an admission that such officers, directors and holders are, in fact, affiliates of the registrant.

As of March 28, 2024, there were outstanding 116,792,838 shares of the registrant’s common stock, par value \$0.0001 per share. In addition, there were 44,889,286 exchangeable shares outstanding as of March 28, 2024, which are convertible into shares of common stock on a one for one basis at any time for no consideration.

Documents Incorporated by Reference

None.

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements in this Annual Report on Form 10-K (“*Form 10-K*”) may constitute “forward-looking statements” within the meaning of the federal securities laws, including the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Our forward-looking statements include, but are not limited to, statements regarding D-Wave Quantum’s and D-Wave Quantum’s management team’s expectations, hopes, beliefs, intentions or strategies regarding the future. In addition, any statements that refer to projections, forecasts or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. In some cases, you can identify forward-looking statements by the following words: “believe,” “may,” “will,” “could,” “would,” “should,” “expect,” “intend,” “plan,” “anticipate,” “trend,” “believe,” “estimate,” “predict,” “project,” “potential,” “seem,” “seek,” “future,” “outlook,” “forecast,” “projection,” “continue,” “ongoing,” or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. These statements involve risks, uncertainties, and other factors that may cause actual results, levels of activity, performance, or achievements to be materially different from the information expressed or implied by these forward-looking statements. We caution you that these statements are based on a combination of facts and factors currently known by us and our projections of the future, which are subject to a number of risks. Factors that might cause or contribute to a material difference include those discussed below and the risks discussed in the Company’s other filings with the SEC. You should not place undue reliance on these forward-looking statements in making an investment decision with respect to the securities offered under this Form 10-K. These forward-looking statements are not intended to serve as, and must not be relied on as, a guarantee, an assurance, a prediction or a definitive statement of fact or probability regarding future performance, events or circumstances. Many of the factors affecting actual performance, events and circumstances are beyond the control of D-Wave Quantum. As a result of a number of known and unknown risks and uncertainties, our actual results or performance may be materially different from those expressed or implied by these forward-looking statements. All forward-looking statements set forth in this Form 10-K are qualified by these cautionary statements, and there can be no assurance that the actual results or developments anticipated by the Company will be realized or, even if substantially realized, that they will have the expected consequence to or effects on the Company or its business or operations. The following discussion should be read in conjunction with the Company’s audited Consolidated Financial Statements and related notes thereto included elsewhere in this Form 10-K. These forward-looking statements are based on information available as of the date of this Form 10-K, and current expectations, forecasts and assumptions, and involve a number of judgments, risks and uncertainties and are not predictions of actual performance. Accordingly, forward-looking statements should not be relied upon as representing our views as of any subsequent date, and we do not undertake any obligation to update forward-looking statements to reflect events or circumstances after the date they were made, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws.

Summary of the Risk Factors

The following is a summary of the principal risks described below in this Form 10-K. This summary does not address all of the risks that we face. We encourage you to carefully review the full risk factors contained in this Form 10-K in their entirety, together with our other filings with the SEC, for additional information regarding the material factors that make an investment in our securities speculative or risky. Additional risks beyond those summarized below or discussed elsewhere in this Form 10-K may apply to our business and operations as currently conducted or as we may conduct them in the future or to the markets in which we currently, or may in the future, operate. Principal risks and uncertainties facing us include, but are not limited to, the following:

- D-Wave Quantum is in its growth stage which makes it difficult to forecast its future results of operations and its funding requirements.
- D-Wave Quantum has a history of losses and expects to incur significant expenses and continuing losses for the foreseeable future.
- If D-Wave Quantum does not adequately fund its research and development efforts or use research and development teams effectively or build a sufficient number of annealing quantum computer production systems, it may not be able to achieve its technological goals, meet customer and market demand, or compete effectively and D-Wave Quantum’s business and operating results may be harmed.
- D-Wave Quantum depends on its ability to retain existing senior management and other key employees and qualified, skilled personnel and to attract new individuals to fill these roles as needed. If D-Wave Quantum is unable to do so, such failure could adversely affect its business, results of operations and financial condition.
- D-Wave Quantum expects to require additional capital to pursue its business objectives, growth strategy and respond to business opportunities, challenges or unforeseen circumstances, and it may be unable to raise capital or additional financing when needed on acceptable terms, or at all.
- D-Wave Quantum’s industry is competitive on a global scale, from both quantum and classical competitors, and D-Wave Quantum may not be successful in competing in this industry or establishing and maintaining confidence in its long-term business prospects among current and future partners and customers, which would materially harm its reputation, business, results of operations and financial condition.

- Any cybersecurity-related attack, significant data breach or disruption of the information technology systems, infrastructure, network, third-party processors or platforms on which D-Wave Quantum relies could damage D-Wave Quantum's reputation and adversely affect its business and financial results.
- Market adoption of cloud-based online quantum computing platform solutions is relatively new and unproven and may not grow as D-Wave Quantum expects and, even if market demand increases, the demand for D-Wave Quantum's QCaaS may not increase, or certain customers may be reluctant to use a cloud-based QCaaS for applications, all of which may harm D-Wave Quantum's business and results of operations.
- D-Wave Quantum may, in the future, be adversely affected by global public health crises such as epidemics or pandemics.
- Unfavorable conditions in D-Wave Quantum's industry or the global economy, including uncertain geopolitical conditions such as inflation, recessions and war, among others, could limit D-Wave Quantum's ability to grow the business and negatively affect D-Wave Quantum's results of operations.
- System failures, interruptions, delays in service, catastrophic events, inadequate infrastructure and resulting interruptions in the availability or functionality of D-Wave Quantum's products and services could harm its reputation or subject D-Wave Quantum to significant liability, and adversely affect its business, financial condition and operating results.
- D-Wave Quantum may be unable to obtain, maintain and protect its intellectual property or prevent third parties from making unauthorized use of its intellectual property, which could cause it to lose the competitive advantage resulting from its intellectual property.
- D-Wave Quantum's patent applications may not result in issued patents or its patent rights may be contested, circumvented, invalidated or limited in scope, any of which could have a material adverse effect on D-Wave Quantum's ability to prevent others from interfering with the commercialization of its products and services.
- D-Wave Quantum may face patent infringement and other intellectual property claims that could be costly to defend and may result in injunctions and significant damage awards or other costs. If third parties claim that D-Wave Quantum infringes upon or otherwise violates their intellectual property rights, D-Wave Quantum's business could be adversely affected.
- If D-Wave Quantum does not meet the expectations of investors or securities analysts, the market price of D-Wave Quantum's securities may decline.
- Uncertainty about the effect of the Transaction may affect D-Wave Quantum's ability to retain key employees, integrate management structures and may materially impact the management, strategy and results of its operation as a combined company.
- D-Wave Quantum may be required to take write-downs or write-offs, or D-Wave Quantum may be subject to restructuring, impairment or other charges that could have a significant negative effect on D-Wave Quantum's financial condition, results of operations and the price of D-Wave Quantum's securities, which could cause you to lose some or all of your investment.
- The price of the Company's Common Shares has been and may continue to be volatile or may decline regardless of our operating performance.
- D-Wave Quantum may issue additional Common Shares or other equity securities without your approval, which would dilute your ownership interests and may depress the market price of the Common Shares.
- D-Wave Quantum's Amended and Restated Certificate of Incorporation (the "*D-Wave Quantum Charter*") contains anti-takeover provisions that could adversely affect the rights of our stockholders.

Frequently Used Terms

Unless otherwise stated or unless the context otherwise requires, the terms “*D-Wave Quantum*,” “*D-Wave*,” “*Company*,” “*the registrant*,” “*we*,” “*us*” and “*our*” refers to D-Wave Quantum Inc., a Delaware corporation, together with its subsidiaries.

In addition, in this Form 10-K:

“*Common Shares*” mean shares of D-Wave’s common stock, par value \$0.0001.

“*DGCL*” means the Delaware General Corporation Law.

“*DPCM*” means DPCM Capital, Inc., a Delaware corporation and a direct, wholly-owned subsidiary of D-Wave Quantum Inc.

“*DPCM Class A Common Stock*” means the shares of DPCM’s Class A common stock, par value \$0.0001 per share.

“*DPCM Class B Common Stock*” means the shares of DPCM’s Class B common stock, par value \$0.0001 per share.

“*DPCM IPO*” means DPCM’s initial public offering, consummated on November 17, 2020, through the sale of 30,000,000 DPCM Units at \$10.00 per DPCM Unit.

“*DPCM Public Stockholders*” means holders of DPCM Class A Common Stock included in the DPCM Units issued in the DPCM IPO, including the Initial Stockholders to the extent the Initial Stockholders hold DPCM Class A Common Stock included in the DPCM Units issued in the DPCM IPO; *provided*, that the Initial Stockholders are considered a “DPCM Public Stockholder” only with respect to any Public Shares held by them.

“*DPCM Trust Account*” means the trust account of DPCM that held the proceeds from the DPCM IPO.

“*DPCM Unit*” means one share of DPCM Class A Common Stock and one-third of one warrant of DPCM, whereby each whole warrant entitled the holder thereof to purchase one share of DPCM Class A Common Stock at an exercise price of \$11.50 per share of DPCM Class A Common Stock, sold in the DPCM IPO.

“*Effective Time*” means the time the Certificate of Merger in respect of the DPCM Merger became effective in accordance with the DGCL.

“*Exchange Act*” means the Securities Exchange Act of 1934, as amended.

“*Exchangeable Shares*” refer to shares in the capital of D-Wave Quantum Technologies Inc. (“*ExchangeCo*”), an indirect Canadian subsidiary of D-Wave. The Exchangeable Shares are exchangeable from time to time, at the holder’s election for Common Shares on a one-for-one basis.

“*Initial Stockholders*” means the Sponsor (defined below) and certain of DPCM’s former officers, directors and other special advisors.

“*PIPE Financing*” means the sale to the PIPE Investors of an aggregate number of Common Shares in exchange for an aggregate purchase price of \$40.0 million pursuant to the PIPE Subscription Agreements.

“*PIPE Investors*” means persons that entered into subscription agreements to purchase Common Shares pursuant to the PIPE Subscription Agreements on or prior to the date of the Transaction Agreement, which included certain shareholders of D-Wave Systems and the holders of other equity interests in D-Wave Systems (including D-Wave Options and D-Wave Warrants), in each case, prior to the Transaction, and certain Initial Stockholders.

“*PIPE Subscription Agreements*” means those certain subscription agreements executed by PIPE Investors on or before the date of the Transaction Agreement in connection with the PIPE Financing.

“*Private Warrants*” means the warrants held by the Sponsor that were issued to the Sponsor at the closing of the DPCM IPO, each of which was exercisable, at an exercise price of \$11.50, for one share of DPCM Class A Common Stock, in accordance with its terms, prior to the consummation of the Transaction.

“*Registration Rights and Lock-Up Agreement*” means that certain Registration Rights and Lock-Up Agreement, entered into among D-Wave, certain holders of DPCM Class B Common Stock, and certain shareholders of D-Wave pursuant to which D-Wave filed a registration statement to register the resale of certain equity securities of D-Wave and certain shareholders were contractually restricted from selling or transferring any of their D-Wave securities until February 5, 2023.

“*Resale Registration Statement*” means the registration statement filed by D-Wave registering the issuance to and/or resale by certain third parties unrelated to the Purchase Agreement of certain securities issued prior to, or in connection with, the Transaction.

“*Transaction*” means the transactions contemplated by the Transaction Agreement, including, among other things, the DPCM Merger and the Arrangement (as defined below), whereby DPCM and D-Wave became subsidiaries of D-Wave Quantum.

“*SEC*” means the Securities and Exchange Commission.

“*Securities Act*” means the Securities Act of 1933, as amended.

“*Warrants*” means the warrants of D-Wave, which are exercisable for Common Shares.

Part I

Item 1. Business

Unless the context requires otherwise, references in this section to “D-Wave,” “we,” “our” or “us” refer to D-Wave Quantum Inc., a Delaware corporation, and its consolidated subsidiaries following the consummation of the Transaction, and prior to the Consummation of the Transaction, to D-Wave Systems Inc., a British Columbia corporation (“D-Wave Systems”).

Overview

At D-Wave, our mission is to harness the power of quantum computing to benefit business and society today. As a 25-year pioneer in the quantum industry and the world’s first company to deliver commercial-grade quantum solutions, we are uniquely defining and ushering in the era of enterprise quantum computing. This is a pivotal moment for the industry. We are singlehandedly leading the transition from an academic endeavor exploring quantum’s potential to enterprise-scale adoption and deployment, solving some of the world’s toughest problems. Based on our strategic decision to bring to market a different type of quantum technology – annealing quantum computing, we hold a first-mover advantage that no other company in the world can claim.

Our market leadership position is evident – we were the first to launch commercial quantum systems, the first to achieve a demonstration of quantum supremacy on real-world problems, and the first to have quantum applications running in production for commercial customers. No other quantum computing company comes close at this time.

Built from our decades of quantum innovation, we offer a full stack of quantum systems, software and services capable of solving highly complex problems today. Our relentless commitment to innovation and invention means that we’re laser-focused on continuously building quantum solutions that push the boundaries of what’s possible. A key corporate strategy is to advance the science of quantum, and in support of that effort, we recently achieved a world-first quantum supremacy result – solving a real-world problem that classical computation cannot. This result was achieved using our latest qubit architecture, which is showing increased coherence and thus more computational power. We will continue our groundbreaking research and innovation on qubit architecture design and fabrication and apply those learnings to new products and applications.

From a product perspective, we continue to develop systems that outperform previous generations, driving toward even higher qubit count, greater qubit coherence, and increased energy scale. Our sixth-generation annealing quantum computing system, Advantage2, is shaping up to be our most performant system to date, with an expected 7,000+ qubits and 20-way connectivity to enable us to solve even larger and more complex problems and drive faster time-to-solution. Our efforts to build a gate model system are continuing to progress, with the development of high coherence fluxonium qubits that show quantum properties comparable to the best seen to date in peer-reviewed scientific literature. In addition, we have demonstrated 20x faster programming and readout than ever before seen on a gate model system. We’re also extending the capabilities of hybrid and classical solvers to achieve best-in-class performance, expected to be unmatched by the industry. Our continuous software enhancements translate to production-grade reliability, access and security to support customers’ production deployments.

Our solutions drive tangible business outcomes such as lower costs, increased operational efficiency and increased revenue opportunities, and our technical roadmap is focused on delivering product advancements that directly impact customer return on investment (“ROI”), now and in the future. Our cloud-based approach offers customers real-time access to our technology, helping them not only find answers to their computationally challenging problems, but also better navigate unexpected disruptions that arise in business daily. Our recently announced initiative to develop and bring to market applications that combine the power of generative AI and quantum computing technologies will further extend our customer value, as we launch the commercial era of quantum machine learning.

Our efforts across every facet of the business – from scientific research to processor development and hybrid solver advancements to production deployment support – remain squarely focused on helping our customers succeed and derive ROI from quantum computing.

Introduction to Quantum Computing

While classical computing technology has delivered significant advancements in performance, it has limitations. In classical computation, binary information is encoded in bits that can be in a 0 or 1 state. Classical processors manipulate and transform this binary information to run classical algorithms and perform computations. Still, many important and high-value problems remain difficult or out of reach for classical computers, which creates a demand for quantum computing. Our quantum computing systems harness quantum mechanics to deliver powerful computational resources. Our systems contain quantum bits (qubits) that can be in a superposition of both 0 and 1 simultaneously, and support entanglement across many qubits. These properties provide computational tools that enable new algorithms and applications for solving problems that are outside the reach of classical computing systems.

The computational value of quantum computing underpins the promise of even greater societal and business impact, from the creation of new products and identification of new lines of business to solutions unimagined in drug discovery, weather modelling, global supply chain distribution, financial market portfolio optimization, and new materials. As the only quantum computing company in the world both building commercial annealing quantum computing systems and developing gate-model quantum computing systems, we can help customers benefit from a simplified, cross-platform experience that provides access to the full breadth of potential quantum applications. This dual-system approach is crucial to serving the full quantum total addressable market (“TAM”), as different types of quantum systems benefit different types of quantum applications: annealing quantum computing systems are optimal for optimization problems, which today account for approximately 25 percent of the quantum TAM (as defined in “Our Growth Strategy” below); gate-model systems are best for differential equations, such as those in quantum chemistry; and both annealing and gate-model systems can solve linear algebraic and factoring problems, such as those in cryptography. As use of quantum computers accelerates, we expect to find new, yet to be discovered use cases that may be better suited for one or the other approach.

By offering both annealing and gate-model quantum computers, we intend to impact the lifecycles of a broader range of use cases and serve as the only cross-platform solution for enterprise customers. For example, in the pharmaceutical sector, annealing quantum computing systems are best suited for patient trial and supply chain optimization, as well as protein folding, while gate-model systems are best suited to assist with drug discovery. Both systems will likely play a role in quantum machine learning for toxicity mitigation. In manufacturing, new materials will be designed with gate-model systems, while annealing quantum computing systems will be used to optimize factory automation to deliver new products that feature those new materials. By providing both annealing and gate-model quantum computing capabilities, D-Wave will be able to address the entire TAM rather than only a portion thereof, unlocking customers’ ability to use annealing and gate-model systems as a single-point solution.

Quantum computing gives our customers a set of tools for finding solutions to hard problems, and can in some cases arrive at optimal solutions far more quickly than purely classical approaches. In a December 2022 report by Hyperion Research, a high-performance computing analysis firm, more than 80 percent of enterprises surveyed stated that they plan to increase their quantum computing commitment in the next two to three years, with more than one-third planning to invest at least \$15 million annually in quantum computing efforts. All of this contributes to acceleration in the use of, and demand for, quantum computing. The need for quantum computing solutions is here today, and we believe D-Wave is well positioned to capture a significant portion of the commercial quantum computing market.

Our customers have included a highly diversified global portfolio of blue-chip enterprise companies, including Mastercard, Deloitte, BASF, Volkswagen, Unisys, Siemens Healthineers, Davidson Technologies, ArcelorMittal, Pattison Food Group (formerly Save-On-Foods), DENSO, BBVA, NEC Corporation (“NEC”), and Lockheed Martin. In addition, thousands of developers around the globe have built early quantum software applications on our systems in areas as diverse as customer offer allocation, resource scheduling, job shop scheduling, vehicle routing, logistics, drug discovery, industrial construction design, portfolio optimization and manufacturing processes, plus many more under development, demonstrating increased recognition of the benefits of quantum computing across industries.

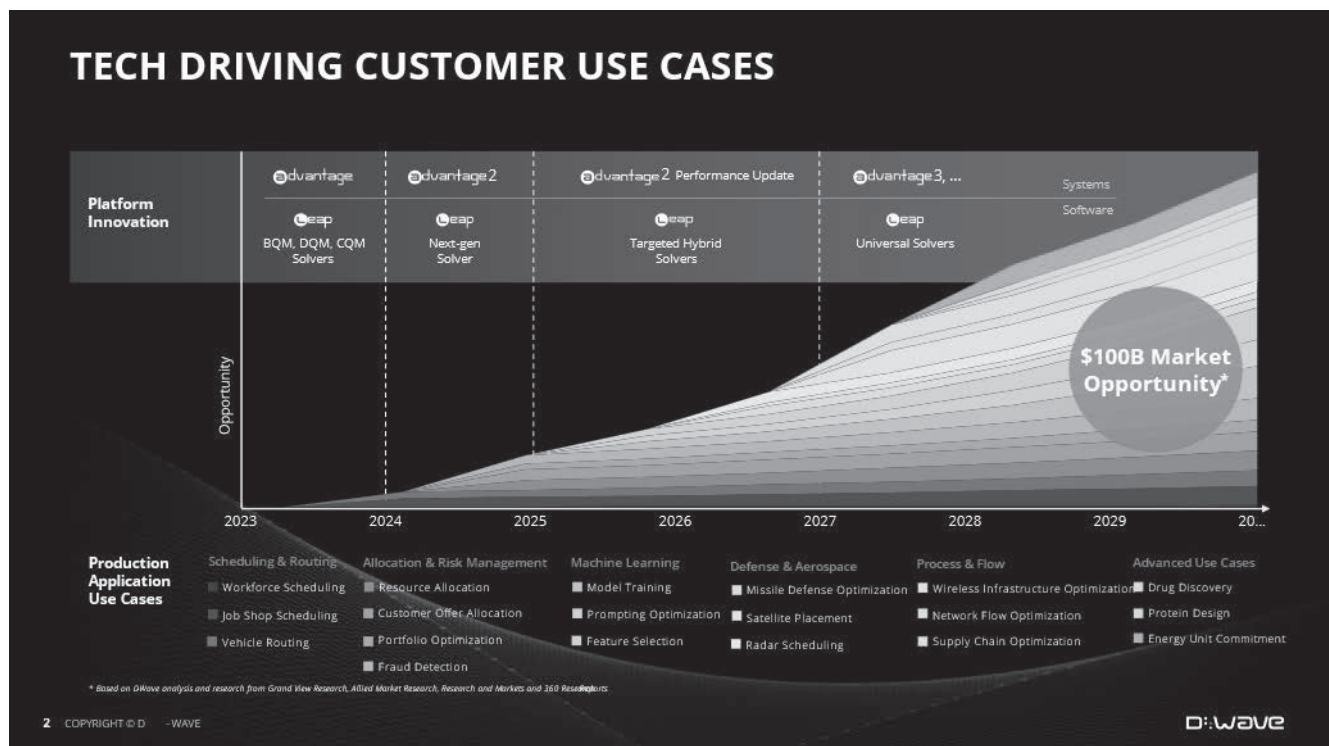
We believe that most commercial quantum computation and successful application development will be hybrid, meaning that problems will be solved using powerful combinations of quantum and classical resources. Much like the value of a graphical processing unit in classical computation, quantum computers are accelerators. Our quantum hybrid approach offers customers the best of classical and quantum solvers, automatically determining which parts of problems are more suited to classical or quantum solutions and, in turn, enabling customers to see early quantum value on their current computational problems while preparing them to address more complex problems in the future.

We have already demonstrated important results. As noted in the peer-reviewed paper published in Nature Communications in 2021, our systems have demonstrated a three-million-times speed-up over the best-known classical approaches on an application in quantum materials simulation. In a peer reviewed paper published in Nature in 2023, our systems demonstrated a significant speed-up and scaling advantage on approach to optimality for an important class of hard optimization problems. Most recently, we believe D-Wave has become the first in the world to demonstrate quantum supremacy on real-world problems. This groundbreaking work was achieved using our latest generation Advantage2 quantum computer. We have shown that our Advantage2 system can solve problems that cannot be solved classically, full stop. D-Wave is currently pursuing peer-review publication of this quantum supremacy research in a scientific journal.

We believe that our hybrid quantum computing approach will accelerate the value of quantum computing for enterprises today, and once fully developed, our cross-platform offerings of both annealing and gate-model systems will provide customers with access to quantum computing for all their use cases. We believe we are poised to disrupt and revolutionize the notion of computational power. In turn, this will enable business and society to harness the value of quantum computing technology.

We are more than our innovative products. We are an organization of professionals across many disciplines and boast distinguished domain experts with decades of experience in their respective fields. We believe the maturity of our technologies, our deep professional services expertise, our history of delivering both scientific advancements and new quantum products via cloud services, and our proven track record of building and growing new markets fully equip us to partner with customers on their quantum journeys and to continue to capture a significant portion of the growing market.

All our systems, tools and products are, and will continue to be, focused on providing an accelerated path to practical, real-world applications that deliver measurable value to our customers.



Our Quantum Computers, Developer Tools, and Quantum Hybrid Solvers Delivered via QCaaS

We believe we are uniquely positioned to serve the growing market for quantum computing solutions and services. Based on our analysis of recent market research, we've identified priority industries and use cases where we see the greatest growth opportunity for our business – both in the near- and longer-term. We will initially focus on supporting use cases in logistics and manufacturing, solving problems such as workforce scheduling, job shop scheduling, vehicle routing and resource allocation – areas where our current technology is successfully driving positive business outcomes for our customers. As our technology development progresses, we will continuously expand the portfolio of applicable use cases to support even more complex problems such as generative AI, machine learning, drug discovery and more.

Our revenue is derived from cloud-based Quantum Computing as a Service ("QCaaS"), which includes access to annealing quantum computers with more than 5,000 qubits and quantum-classical hybrid solvers that can solve problems with up to one million variables. We also recognize revenue by helping customers build quantum hybrid applications through our professional services offerings. For a breakdown of revenue by type of product or service, please see Note 4 - Revenue from contracts with customers included in the notes to our audited consolidated financial statements. While we generate revenue from these products and services, we have a history of net losses since inception and experienced negative cash flows from operations. See "Risk Factors— Risks Related to D-Wave Quantum's Financial Condition and Status as an Early-Stage Company—We have a history of losses and expect to incur significant expenses and continuing losses for the foreseeable future."

Advantage™ quantum computers: we are at the forefront of providing annealing quantum computers. Today's Advantage annealing quantum system was built for business and excels at optimization problems ubiquitous in real-world commercial applications, such as optimizing manufacturing processes and reducing waste. Advantage systems are available in our Leap™ quantum cloud service, and access to Leap and other services can be purchased directly from D-Wave or through Amazon Web Services ("AWS") Marketplace and other partners such as NEC. We believe the industry is on at least a seven to ten-year timeline for delivering scaled, error corrected gate-model systems, and we expect our gate-model program to be competitive within that timeline. Our scalable gate-model program will extend the Advantage system to deliver gate-based quantum computing leveraging the technology and approach that has enabled us to deliver five generations of progressively larger annealing quantum computers. Much like our existing annealing quantum computers, we will deliver access to the gate-model quantum computers via our Leap quantum cloud service. However, we anticipate that there may be unique government classified applications that require stand-alone systems (potentially for both annealing and gate-model systems) on customer premises. In parallel with developing gate-model quantum computing systems, we will continue to invest in our Advantage annealing program with a clear roadmap for future generations of increasingly more powerful, coherent, and connected annealing quantum computing products.

Our offerings include:

Leap™ quantum cloud service: We are also at the forefront of providing real-time quantum cloud service offerings for production quantum use cases. Launched in 2018, and now available in 39 countries and counting around the world, the Leap quantum cloud service was built to access state-of-the-art quantum computers and a quantum-classical hybrid solver service that can handle problems with up to one million variables. Users log in to Leap and immediately benefit from not only access to our quantum systems and hybrid solvers, but also from a suite of coded examples, access to a cloud-based open source integrated development environment ("IDE") for easily running both these examples and developing new applications, as well as access to resources, tools and an emerging quantum developer community.

Ocean™ developer tools: Offering a full suite of open-source programming tools, the Ocean software development kit ("SDK") simplifies the process of building quantum hybrid applications while reducing associated time and cost.

D-Wave Launch™ on-board to quantum computing program: D-Wave Launch offers a phased approach to identifying and building in-production quantum hybrid applications. Our professional services team works with customers to help identify which problems would be most impacted by quantum solutions, develop quantum proofs-of-concept, pilot hybrid quantum applications, and then put those applications into production. Training and quantum computing access accompany the phases.

Customers and Applications

We categorize quantum use cases as either pre-production or production. For over ten years, customers have been using our quantum computers for modelling, testing, and research while also providing a feedback loop that has not only grown into a collection of examples of how the system can be used today, but also provides insight into emerging use cases. These are pre-production use cases.

We are now observing a shift in certain quantum use cases, notably optimization-based, that are beginning to move into production, with customers identifying real business problems, developing quantum hybrid proofs-of-concept, piloting them, and then begin running those use cases in production environments, thus fueling daily operations. But we believe that this is just the beginning. As annealing quantum computing becomes more powerful and gate-model systems begin to come online over the next seven to ten years, other pre-production and production use cases are expected to emerge.

As of 2024, hundreds of user-built early applications have been developed to run on our annealing quantum computing systems and in our hybrid solver service. Spanning a wide range of diverse industries, these applications include examples in airline scheduling, quantum chemistry simulation, manufacturing optimization, preventative health care, portfolio optimization, and logistics.

Our annealing quantum computer runs an algorithm that natively solves optimization problems. As a result, a growing collection of use cases tend to fall into the optimization category. Applications include peptide design, employee scheduling, last-mile vehicle routing, job shop scheduling, financial portfolio return optimization, farm-to-market food delivery, digital marketing, organic light-emitting diode (OLED) materials development, financial risk reduction, marketing campaign optimization, shipping container logistics, ribonucleic acid folding, and clinical trial optimization. Verticals including manufacturing, logistics, financial services, life sciences, energy, and telecommunications stand to benefit from the processing power of quantum computing.

Our customers have built a plethora of applications with our annealing quantum computing technologies that demonstrate tangible business outcomes, including:

- SavantX, a quantum analytics company, worked with the Port of Los Angeles to create a quantum application specific to the port's third largest terminal—Pier 300—to optimize cargo handling and truck scheduling using D-Wave's annealing quantum computer. With the application, truck drivers were directed to the right container based on a crane's current location, reducing crane movement while increasing crane productivity. The result of this system was the reduction of wait-time for truckers, and increased movement of containers out of the port. Per-crane deliveries went from 60 to 97 per day following implementation, a 62 percent increase in productivity.
- Pattison Food Group, Canada's largest Western-based provider of food and health products, has successfully used our hybrid solver service in the Leap service, which incorporates the Advantage quantum processing unit ("QPU"), to find solutions to optimization problems in grocery logistics. The company is moving multiple quantum hybrid applications into production. The first, an e-commerce driver delivery scheduling application, is now in production to create schedules that serve over 100 stores. This application has trimmed what was once an 80-hour task to just 15 hours each week, resulting in over 80 percent time savings. In addition, the company will soon bring another quantum-hybrid application into production that optimizes in-store resource scheduling in its stores across Canada.
- We have been working with our European partner, QuantumBasel, and VINCI Energies, an accelerator of environmental and digital transition, on a pilot project to better design the layout of an HVAC system for a new building, considering discrete duct sizes and joint costs. VINCI Energies has been developing an automated solution for what had been a largely manual process. Built to supplement that automated solution, our quantum-hybrid application showed better qualitative and quantitative results across all evaluation metrics. Overall, we have been able to identify a lower cost and more aesthetically pleasing solution for HVAC system placement.
- Momentum Worldwide is a global experiential agency, part of the Interpublic Group, whose clients include many of the world's most famous brands. A recurring task for the agency is to create routes for promotional tours. Currently, creating these tours takes significant work hours and domain expertise to ensure that all client requirements and federal regulations are considered. For this project, D-Wave developed a hybrid quantum-classical solution utilizing D-Wave's Leap platform to automate the creation of these tours with optimal routes, reducing Momentum's operational costs for producing and running these tours. The prototype D-Wave provided was able to solve the given problem in less than an hour, and is well designed to allow for an easy transition to a full production-quality application.
- Davidson Technologies, a technology services company that provides innovative engineering, technical, and management solutions for the Department of Defense, aerospace, and commercial customers, has been working with D-Wave on several quantum-hybrid applications to advance national defense efforts. Most recently, we have built a radar-scheduling application that efficiently manages the time-limited resources of a phased-array radar system, enabling scheduling of communication with moving objects. We observed enhanced resource utilization in all our test cases. On average, we achieved a 15 percent increase in utilization across all problem scenarios and time limits, with the highest improvement reaching an impressive 42 percent.
- BBVA, a global financial institution, along with financial quantum applications partner Multiverse Computing, set out to identify management strategies that yield the highest Sharpe ratio, a metric reflecting the rate of return at a given level of risk. An algorithmic solver was used to find the optimal solution to a cost function equation that describes the risk, return, and transaction costs associated with a given portfolio. Utilizing D-Wave's hybrid solver service, BBVA was able to find the maximum value at the lowest risk in 171 seconds, even with 10382 possible portfolios. In comparison, existing solutions either took an entire day or failed to find a solution.

Enterprises are beginning to see ongoing benefit from their D-Wave powered use cases. Moreover, the accumulated quantum learning experience is expected to accelerate the addition of new use cases, as both new applications emerge and technologies mature. The cycle of moving from proof-of-concept development to production applications provides continuous learning and innovation. Providing tangible customer value is an important way in which we differentiate ourselves from other companies in the market, whose primary focus, out of necessity, is scientific discovery rather than the delivery of quantum products for business-scale commercial applications.

Scientific applications: Notwithstanding our focus on commercial customer value, we also demonstrate excellence in scientific applications. Over the past several years, simulation of quantum magnetic systems has emerged as a promising application and better means of studying the dynamics of the QPU. Responding to a 2021 *Nature Communications* paper on a simulation of topological phenomena in a quantum magnet using a D-Wave 2000Q system, Nobel laureate J. Michael Kosterlitz, who won the prize for his work on this topic, said: “This paper represents a breakthrough in the simulation of physical systems which are otherwise essentially impossible.”

The History of Building a Quantum Ecosystem

Building a quantum ecosystem of developers, talent, systems, software, tools, and users has been a core focus of D-Wave. Throughout our history, we have demonstrated a successful track record of providing technology and innovation to customers. And we have gathered significant operational and commercial experience for running a quantum computing company at scale. Our hardware and software expertise provides us with a unique capability to address customer needs.

The early years of D-Wave were largely dedicated to research and development, leading to our first working qubits and scalable systems. In 2004, we made the critical and deliberate decision to focus on annealing quantum computing to deliver practical business value with quantum computing. By 2011, we officially moved our research and development into a new phase when we announced our collaboration with Lockheed Martin, allowing for outside scientists and engineers to work with our quantum systems and to provide critical feedback on our continuing quantum system development. Since the Lockheed Martin engagement, our technology has been used for a variety of research and academic applications at companies and institutions including Google, the Oak Ridge National Laboratory, Los Alamos National Laboratory, Jülich Supercomputing Centre, University of Southern California (“USC”) Information Sciences Institute, and the NASA Quantum Artificial Intelligence Laboratory and University Space Research Organization. Through this early quantum access, we gained crucial feedback on how to improve quantum computers and make them more accessible for practical use. As a result, each generation of our annealing quantum computing systems has enabled organizations to achieve dramatic improvements in performance.

In 2018, we removed barriers to access our annealing quantum computing systems by launching our Leap service, which was the industry's first real-time, publicly accessible quantum cloud service that allowed developers to access live quantum processors and create applications using Python, a high-level general-purpose programming language. D-Wave’s cloud approach facilitated and increased access to quantum computers, thereby allowing businesses, developers, and researchers to directly access our systems.

With thousands of developers active in the Leap quantum cloud service today, our focus on growing an ecosystem of quantum developers is paving the way for increasingly diverse quantum computing applications. As founding mentors of the Creative Destruction Lab’s quantum work stream, we have mentored companies using quantum computing, including OTI Lumionics, which is working on new material design, Menten AI with its drug discovery efforts, and Multiverse Computing, which is developing applications in the financial services space.

In 2019, our customers began to put application pilots into production. As previously mentioned, Volkswagen debuted the first-ever real-time quantum application in limited production, a quantum shuttle service that carried people between conference centers in Lisbon, Portugal.

A year later, we released the Advantage annealing quantum computer, a 5,000-qubit system, along with new quantum hybrid solvers in the Leap quantum cloud service. This marked an inflection point that allowed far larger, more complex, business-scale problems to be solved on our systems.

And in 2021, we released performance upgrades to the Advantage system and added a new hybrid solver to make it easier to solve problems with constraints. Business optimization problems use constraints, such as the distance a truck can travel before running out of gas (rather than assuming the truck can run indefinitely). In October 2021, we also announced a preview of our next-generation quantum computing platform, which will include both annealing and gate-model quantum computers. With the expansion of our products and services to include gate-model systems, we believe we will be poised to provide the multiplatform computational power required to tackle a broad array of problems facing businesses.

In 2022, we introduced new updates to our hybrid solver, enabling businesses to run quadratic optimization problems with continuous variables as well as weighted constraints, and introducing pre-solve techniques that simplify problem formulation. By incorporating constraints, the new solver is valuable in addressing the real business problems of current and future customers. Most recently, we launched new algorithmic updates to our constrained quadratic model hybrid solver that deliver increased performance for existing binary problem classes, which can include offer allocation, portfolio optimization, and satisfiability. Future software developments are expected to improve solution quality for our priority verticals and key use cases in manufacturing and logistics, as well as advanced applications involving AI and machine learning.

In 2024, we introduced the Advantage2™ quantum computer, our sixth-generation annealing quantum computer, with a 1,200+ qubit experimental prototype that is demonstrating significant performance gains on hard optimization problems and is expected to be particularly powerful for new use cases such as machine learning.

Our Business Strategy and Differentiators

We are the Practical Quantum Computing Company for a reason. We have the longest track record of a quantum computing company working with customers on real-world, computationally complex optimization problems. We are the only company in the industry with operational and commercial experience running a quantum computing business at production levels. We are leaders in the development of the intersection of quantum hardware and software, unlocking greater ease of use and quantum hybrid application performance for customers. We are the only quantum computing company building annealing and developing gate-model quantum computers. Moreover, our commercial-first approach focuses on building products delivered via the cloud that help enterprises solve complex business problems and drive business value today. Combined, this gives us a unique perspective on how to anticipate and address the needs of customers, with a goal to accelerate quantum computing market creation and adoption.

Full stack for the entire quantum journey: We are the only quantum computing company building annealing and developing gate-based quantum systems with a full-stack, cross-platform vision for the future. Our quantum-in-the-cloud offering comprises a complete portfolio of products and services that supports building in-production applications across broad use cases for businesses and developers. We currently deliver commercial annealing quantum computing systems via our Leap quantum cloud service, open-source application development tools, and professional services that bring demonstrable business value to our customers. We are also expanding into gate-model systems to provide coverage for a wider variety of customer use cases.

Cross-platform: Our platform-agnostic approach will help customers solve their toughest and most complex business problems without having to worry about which quantum technology approach or platform to use. Upon the development of our gate-model systems, customers will not have to choose between annealing or gate-model systems, as our cross-platform open-source developer tools will enable them to invest in one tool and use it across multiple quantum systems.

Hybrid strategy: Some problems are solved with classical computing resources, others with quantum computing resources, but many are best solved with a combination of both. This is why our product strategy enables customers to tap into and harness the power of both quantum and classical resources to satisfy their given use case. Our hybrid solvers (part of our Leap quantum cloud service) offer a seamless way for end users to easily leverage both our quantum and classical resources via the cloud to run complex problems. Over 50 million problems have been run on the Advantage annealing quantum computer directly and through hybrid solvers since September 2020.

Annealing for optimization: While our strategy encompasses both annealing and gate-model technologies, we are the only quantum computing company in the world that builds and delivers access to annealing quantum computers. Annealing quantum computing is uniquely effective at solving optimization problems, and this problem class makes up a significant proportion of the enterprise problem universe. Moreover, optimization use cases are suitable to a recurring revenue model, as many are repeatable, real-time (always-on) processes. Recent publications point to the fact that annealing is better for solving optimization problems both today and in the future. Conversely, the pre-processing overhead and lesser performance of current gate-model systems make them ineffective in solving optimization problems.

Practical quantum computing for accelerated time-to-value: We build products and services that help enterprises solve complex business problems and deliver business value today. All our systems, tools and products are, and will continue to be, focused on providing an accelerated path to practical, real-world applications that deliver value to our customers.

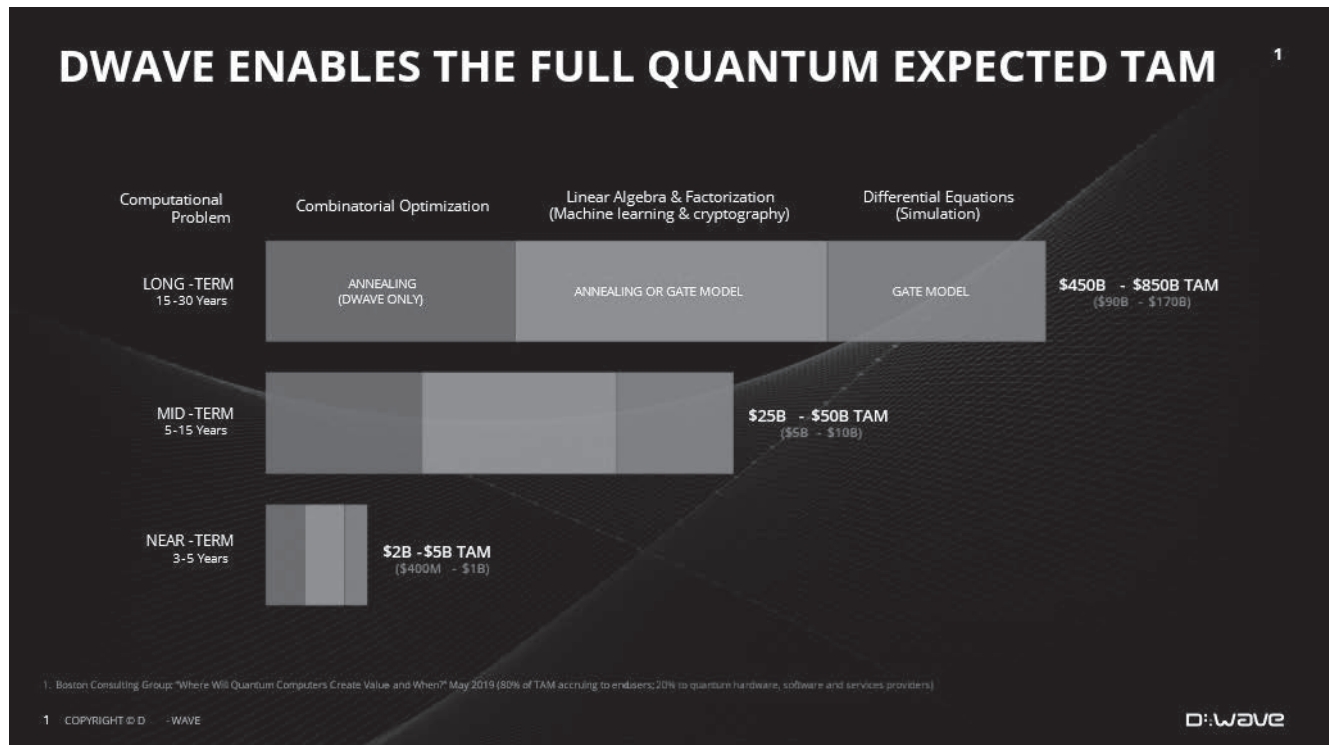
Cloud-first and enterprise scale: The Leap quantum cloud service provides real-time access to production-grade annealing quantum computers with enterprise class performance and scalability. The Leap service is engineered for high reliability and availability, offering greater than 99 percent uptime, and provides the security and privacy measures needed for enterprises to go live with in-production quantum hybrid applications. Much of our technical focus is on ensuring delivery of a secure production-grade quantum technology stack that customers can rely on to support critical business workflows. In December 2023, we became the only full-stack quantum technology provider that is SOC 2 Type 2 compliant, building assurance with our customers that their data is secure. Established by the American Institute of Certified Public Accountants (AICPA), the SOC 2 examination is designed for organizations to ensure the personal assets of their potential and existing customers are protected. SOC 2 reports are globally recognized and affirm that a company’s infrastructure, software, people, data, policies, procedures, and operations have been formally reviewed.

We also continue to focus on key initiatives to allow for seamless deployment of new Leap service features with no downtime for customers, as well as expansion of our Leap platform to new countries.

- Professional services accelerate QCaaS: Our model features a professional services-enabled approach for application discovery and proof-of-concept development, and a QCaaS model for recurring revenue as applications move to production. This model enables us to capture professional services revenue in the initial stages of the customer journey and recurring QCaaS revenue in the subsequent stages once the application has been built and validated.

Our Business Model

- *Three-pronged go-to-market model:* Our go-to-market model—across direct sales, partner channels, and developers— extends our ability to scale sales.
- Our **direct sales strategy** involves: (1) growing our existing customer base by accelerating the path from pre-production to in-production application deployment on Leap, our quantum cloud service; and (2) acquiring net new customers using a customer engagement model, D-Wave Launch, which is a services-enabled journey to the adoption of quantum technology. With D-Wave Launch we take our customers along a journey of use-case analysis and problem formulation to a fully implemented proof-of-concept implementation and finally onto a production state, where the devised solution is integrated into the customer’s day-to-day operational workflow. The initial stages of engagement prior to production deployment are considered non-recurring revenue per application. Once the application is in production, D-Wave generates recurring revenue by providing QCaaS services to enable customers to run the full production application on an ongoing basis. See “Our Quantum Computers, Developer Tools and Quantum Hybrid Solvers Delivered via QCaaS—D-Wave Launch™ on-board to quantum computing program” for additional information.
- Our **partner strategy** involves: (1) expanding our reach by enabling AWS customers to purchase Leap and other services through AWS Marketplace; (2) creating new markets and unlocking new use cases via systems consultants and integrators such as Deloitte; and (3) building an ecosystem of global resellers such as NEC and regional resellers such as Strangeworks and Sigma-i. For our partner-led strategy, we work with system integrators, independent software vendors, and cloud providers to resell our Leap quantum cloud service around the globe to scale our business.
- Our **developer strategy** involves: (1) providing access to a free trial of Leap, our quantum cloud service; (2) driving developer product usage, quantum application development, and community engagement to maximize developer conversions (from free to paid); and (3) lead generation, i.e., engaging our developer base for potential new enterprise customer accounts. We do this by offering free, unlimited access to our Leap quantum cloud service platform. In this platform, users have unlimited “always on” access to demos, code samples, training materials, an integrated developer environment, and a community forum. Initially, they also receive up to one minute of free use of the actual QPUs and additional free time on the quantum hybrid solvers. Because of the speed of the QPU, one minute of QPU time is equal to running between 400 and 4000 different problems, depending on the nature, size, and complexity of the problems. Developers who attach their GitHub account to their Leap sign ups continue to receive one free minute monthly. There is currently no limit to the ability to receive an additional one minute of free time each month, assuming developers continue to open source their work and associate their GitHub account. To date, more than 34,000 developers have joined our ecosystem.



According to the Boston Consulting Group (“BCG”) the quantum computing TAM is projected to grow from \$2 billion to \$5 billion in 2022-2025 to \$450 billion to \$850 billion by 2040 (and beyond), with 20 percent of the overall TAM being available to quantum hardware, software, and service providers, and the remaining 80 percent of the TAM being the value captured by quantum computing end-users.

BCG estimates that combinatorial optimization problems, which are best suited for annealing quantum computing systems, will represent approximately 24 to 26 percent of the TAM, which translates to \$500 million to \$1.2 billion near-term, growing to \$112 billion to \$212 billion longer-term. The 20 percent of this that is expected to be available to quantum hardware, software, and service providers is \$100 million to \$250 million near-term, growing to \$22 billion to \$42 billion longer-term. This, coupled with the broad TAM for other emerging quantum use cases, such as quantum chemistry, quantum machine learning, and quantum cryptography that our annealing and gate-model systems will support, represents a significant and growing opportunity.

We believe our full-stack, cross-platform approach, alongside our go-to-market strategy, technical capabilities, and product vision, positions us to capture a significant portion of the quantum TAM available to hardware, software, and service providers.

Our overall growth strategy has three key focus areas: (1) build the business; (2) advance the science; and (3) improve the technology.

Build the business: We continue to build the business through a combination of QCaaS services, professional services, and partner / developer ecosystem growth. The key elements of this strategy are:

- *Win the fast-growing optimization market:* Annealing quantum computing is uniquely suited for solving optimization problems and, as noted above, this problem class is anticipated to comprise \$22 billion to \$42 billion of the longer-term quantum computing TAM that is available to hardware, software, and service providers. As the only company in the world offering annealing quantum computing technology, we will continue to leverage this competitive position and acquire additional customers with optimization use cases across multiple verticals, including financial services, manufacturing and logistics, mobility, and life sciences and pharmaceuticals.

- *Direct sales, recurring revenue, and expanding partner strategy:* We are pursuing multiple revenue streams from our go-to-market model with a focus on five key initiatives. Our main line of business—cloud service—has seen significant year-over-year growth, which we anticipate will continue. Specifically, between 2018, when we introduced our Leap cloud service, and the end of 2023, cloud revenue has grown at a compound annual growth rate of 21 percent. We have two types of cloud revenue contracts: large multiyear engagements and smaller recurring contracts that are often multi-month in duration. We continue to acquire net new customers through the D-Wave Launch program and further drive recurring QCaaS revenue by moving existing customers from their pre-production journey into production applications.
- *Prioritize key vertical markets:* Foundational to driving sales growth in the commercial sector is a focus on key industry verticals where we identify the best solution and market fit. The first two vertical markets identified are logistics and manufacturing. In both cases, we have a focus on four use cases that have shown the effectiveness of our quantum and quantum-hybrid solvers to provide competitive solutions to complex optimization problems that exist within those vertical markets. We’re pursuing a new go-to-market growth strategy, designed to increase sales and expedite customer applications moving into production. We believe this new GTM approach will better position us to serve markets that are ready to capitalize on the tangible benefits of our quantum computing solutions right now. These are customers on the forefront of massive digitization efforts, as they incorporate cutting-edge technologies designed to optimize the supply chain and identify new processes that fuel operational efficiencies and cost savings. As part of this new GTM strategy, we’re also doubling down on key use cases with the broadest near-term applicability including vehicle routing, crew scheduling, manufacturing job shop scheduling, and resource allocation. New use cases and verticals will be added as they become mature, which we expect will include risk management, machine learning, defense and aerospace, and process and flow. To broaden our reach and potential customer footprint with these key verticals and use cases, we’re increasing our focus on partners and resellers. We currently sell through a group of strategic partners including Deloitte, uptownBasel, NEC, Unisys and SavantX and are in active conversations with many others to scale our GTM efforts. Recent product enhancements support this growing channel partner ecosystem, making it even easier for them to manage multiple customer engagements with us. New administration features now give our partners the ability to manage their own organization and associated projects in our Leap real-time quantum cloud service. In parallel with this verticalized go-to-market focus, we continue to identify and implement new and existing use cases across multiple industries as opportunities arise.
- *Landing new customers and expanding the existing base:* With our verticalized focus at the forefront, our direct sales strategy involves: (1) growing our existing customer base by accelerating the path from pre-production to in-production application deployment on our Leap quantum cloud service. This is achieved through a focused customer success program to ensure successful migration to QCaaS production usage, ongoing renewals, and the identification of additional use-case areas; and (2) acquiring net new customers using the D-Wave Launch program, a services-enabled journey to the adoption of quantum technology. For direct-to-enterprise sales, we regularly initiate customer relationships through the D-Wave Launch engagement model. These engagements typically start with our professional services organization working with the customer to build out an actual software implementation running on the Leap quantum cloud service to test if the implementation works correctly and identifies business value to the customer. On occasion, a quicker, lighter model is built first, as a demonstrator, in order to identify use case applicability before engaging in a more rigorous proof-of-concept development. Following a successful proof-of-concept implementation, we work with our customers to integrate the full quantum-hybrid solution into their day-to-day workflow and surrounding systems’ infrastructure. The goal of this work is to put the quantum hybrid application into full production. At this point, our customer is running the problem in their environment while connected to the Leap quantum cloud service, at full scale, and deriving additional business benefits beyond those identified in the earlier development stages. All engagements up until full production are considered non-recurring revenue per application. At full production, the Leap service access provided to run the final application represents recurring revenue as it consumes QCaaS resources on a continuous basis. As an application consumes QCaaS resources, D-Wave recognizes the revenue. See “—Our Quantum Computers, Developer Tools and Quantum Hybrid Solvers Delivered via QCaaS—D-Wave Launch on-board to quantum computing program” for additional information.

- *Reducing time to production:* As an independent, full-stack quantum computing platform and solutions provider, D-Wave is unique in having a large number of commercial customers with a steadily increasing proportion using D-Wave quantum-hybrid solutions within their day-to-day production workflow. As more of these customers enter into production usage, our focus now shifts to reducing the time it takes to get more D-Wave quantum-hybrid solutions into daily workflows. We are doing this by focusing on the Launch process and leveraging any best practices or additional efficiencies that can be implemented across all projects. As more and more solutions successfully proceed through our Launch program, we will take advantage of the lessons learned, improving and refining the process as we go. These changes will drive better efficiency and reduce project length and time to production. We are also defining standardized offerings for certain use cases and industries. This will allow us to have repeatable formulations and solutions for standard business problems and put solutions in place for new customers with those problems in less time using our standard offerings. These offerings would allow for some minor modifications or customizations for client specific requirements but reduce the time to production, as we will have an established partial solution in place that can be leveraged and built upon. These standard offerings will both take into consideration the industry-specific regulatory and compliance requirements and eliminate the need for each new project to have to account for these important factors.
- *Engage partners for increased breadth and speed:* We also intend to expand our channel partner and reseller relationships to identify new geographies, customers, and use cases, all of which could potentially utilize our products. We continue to develop, implement and manage a comprehensive partner program to ensure that the most appropriate and productive partner relationships are initiated, enabled and managed, across solution providers, system integrators and referral / reseller partners.
- *Pursue government sales and grants:* We see an increasing demand signal from governments for their interest in building quantum applications and their support for both annealing quantum computing, quantum-classical hybrid technologies, and continued research and development for gate-model quantum computing systems. In Japan, the government has funded application development for a variety of different public sector problems including optimized tsunami evacuation routes and lowering CO2 emissions. In Australia, the government announced an interest in building applications to optimize transportation networks. In Canada, the National Quantum Strategy includes a pillar aimed at commercialization, and the United Kingdom's SparQ programs explicitly include quantum annealing along with gate-model systems. In the U.S., there are many policy initiatives to be explicitly inclusive of the different quantum technologies, as well as for identifying the right use cases and developing near-term quantum applications. Government quantum programs also continue to provide funds for enhanced research and development efforts. D-Wave will continue to work directly and through appropriate partnerships to pursue these opportunities. Outside of government funding programs, we are also seeing an increased interest in direct engagements across the public sector, including transportation, telecommunications, energy, emergency services, defense, and homeland security.

Advance the science: We advance the science through the pursuit and creation of new knowledge in the quantum space, with the goal of demonstrating customer value and ultimately quantum supremacy (i.e., a computational quantum outcome that cannot be achieved by any existing classical computation system) in a growing portfolio of problems. The key elements of this strategy are:

- *Demonstrate the power of our quantum technology through benchmarking:* Our annealing quantum computers have outperformed the best classical computers in several specific use cases. As noted in a recent peer-reviewed paper published in *Nature Communications*, our systems demonstrated a solution to a problem three million times faster than the best-known classical approaches on an application in quantum materials simulation. In the context of real-world applications, our customers have shown material efficiency improvements in solving business problems (for example, up to 500 times faster for Pattison Food Group, as described above).
- *Pursue the cutting edge and push the boundaries of quantum knowledge:* We plan to continue to create new knowledge in the quantum space that shows the power of our scientific and technological approaches and pushes the frontiers of quantum information science. We have an active research program that focuses on quantifying the increases in performance we achieve with increasingly coherent quantum systems. Furthermore, we have seen promising new results on interesting physics problems, currently in peer-review, because of even greater coherence in our systems.

Improve the technology: We improve the technology through continuous innovation in annealing and gate-model quantum computing development, hybrid algorithm advancement, and leveraging customer and market feedback to inform our product innovations and lifecycle. The key elements of this strategy are:

- *Continue to invest in our differentiated annealing quantum computing technology:* As discussed above, while our technology approach encompasses both annealing and gate-model technologies, we are the *only* company that builds and commercially delivers production-scale annealing quantum computers. Our extensive intellectual property portfolio around our annealing quantum computing systems and ten-year head start in superconducting quantum technology development give us a first-mover advantage, making it difficult for others to enter this space. Quantum annealing is the only quantum computing model that, as part of the hybrid solver service, can efficiently solve large combinatorial optimization problems at enterprise scale, which make up approximately 25 percent of the addressable quantum market.
- *Build and deliver a unified quantum platform that offers solutions for broad quantum use cases for customers:* The intersection of systems, software, services, and tools is familiar to us. We are utilizing our integrated engineering expertise to build a cross-platform quantum service with both annealing and gate-model systems that we believe will be the first and only quantum computing offering to impact full product lifecycles across multiple industries.
- *Extend our track record of continuous innovation, execution, and operational excellence:* We have a strong track record of innovation in building and delivering annealing quantum computing systems to the market. From the D-Wave One, D-Wave Two, D-Wave 2X, D-Wave 2000Q, D-Wave 2000Q LN, Advantage and Advantage Performance Update, to the forthcoming Advantage2 system, we have demonstrated a relentless pursuit of increased qubit count, coherence (qubit quality), qubit connectivity, and computational performance. This has resulted in a rapid increase in the complexity of problems our customers are able to solve. We plan to continue this trajectory and focus on driving additional improvements in coherence and connectivity in our annealing quantum computing systems to further expand the universe of solvable problems, while utilizing this expertise to build our gate-model system.

Our Technology Approach

Quantum computing technology landscape

There are two primary approaches to building quantum computers:

- *Annealing quantum computation:* Heavily inspired by physics and uniquely effective at solving challenging, ubiquitous optimization problems, annealing quantum computation is the first and only approach to date that delivers large-scale quantum computing and is a core of our product platform.
- *Gate-model computation:* Heavily inspired by classical digital computation, gate-model computation replaces classical registers of bits with qubits and performs a series of single and multiqubit operations, or gates, on the registers to run a computation. There are superconducting, ion trap, neutral atom, and photonic-based approaches to building gate-model quantum computing architectures.

Our quantum systems approach

In 2004, D-Wave made a singular strategic choice, guided both by analysis of the market for potential quantum applications and the state of available technology. Our decision to first develop a large-scale annealing quantum computing technology for optimization remains prescient today. Challenging optimization problems are found across all areas of business, and a growing body of theoretical and empirical evidence identifies annealing quantum computing as the best approach for solving them. Exploiting the natural tendency of systems to remain in ground or low energy configurations, this model of quantum computing is more error-tolerant than gate-model architectures and therefore easier to develop into a large-scale technology.

To quickly develop and scale a quantum computer based on annealing quantum computing, we built a Manhattan Project-style organization. We have a multidisciplinary team of scientists, technicians, software developers, and engineers of all types working together on all aspects of the technology, systems, and software. Wherever possible, we leverage third-party technology and expertise to accelerate our core technology development. We build our qubits with superconducting circuits built in a multilayer integrated circuit process. A multilayer fabrication stack is composed of multiple alternating layers of superconducting metals, dielectric insulators, as well as other superconducting device layers, that allow for a dense, or space efficient, implementation of complex circuitry. This approach allows us to integrate control and readout circuitry into the fabric of the quantum processor unit and facilitates scaling to large processor sizes. Our fabrication is done with mature, proven, reliable, and readily available industry-standard technology, processes, and components wherever possible. As a result, we can work with existing third-party foundries without the need to invest capital in a new fabrication facility.

At the same time, some critical elements of the technology are fabricated and tested with our own equipment, in our own facilities. We have an in-house team of superconducting application-specific integrated circuit designers, and we perform all our own superconducting circuit design. All testing and characterization of superconducting circuits is performed in-house at our facilities by a team of scientists trained in cryogenic characterization and operation of superconducting circuits and devices. By collocating, co-developing, and controlling both design and testing, we maximize speed of development and control product quality.

With our current product fabrication at very large-scale integration (“VLSI”), we also benefit from the ability to integrate on-chip superconducting control circuitry. This can serve to tune and control qubits and implement scalable readout. “Scalable” in this context means that many tens of thousands of devices can be controlled and read with only hundreds of wires—a characteristic rare in the quantum computing world. Our superconducting VLSI control circuitry has enabled us to scale our systems from a handful of qubits to over 5,000 qubits in the current Advantage system.

Control electronics are an integral part of all quantum computing architectures, and we have designed and built more than seven generations of semiconductor-based electronic systems for control and readout of superconducting quantum processors. Co-developing the cryogenic superconducting and room temperature semiconducting-based electronics is essential to optimizing performance.

Our Burnaby facility in British Columbia, Canada hosts system development and manufacturing. To ensure that we have an efficient and sustainable manufacturing process that can continue to scale, we have capacity to expand across all our core technology areas:

- In fabrication, our existing foundry can scale to a level significantly higher than our current throughput;
- With the release of our D-Wave 2000Q Lower Noise (LN) annealing quantum computer, we demonstrated that a second source fabrication facility can significantly speed up technology development; we continue to explore alternatives for this portion of the supply chain.
- Our wiring and input/output manufacturing is in-house and we can scale this capability by adding production staff and resources; and
- Room temperature semiconductor electronic systems are designed in-house and built by third-party vendors and with additional funding, electronics manufacturing can easily be scaled.

Our development philosophy emphasizes systems engineering to maximize customer benefit. This means that we design the qubit, from the beginning, in a way that allows us to control, operate, and read many thousands of qubits, not just tens of qubits. This approach has supported scaling our system through five generations of commercial quantum computers, and with it, the complexity of problems our quantum computers can handle. Notable improvements we have made while transitioning from the D-Wave 2000Q to the Advantage quantum system (released in October 2020) include:

- Increasing the number of qubits from 2,000 to 5,000 (2.5 times);
- Increasing connectivity between qubits from 6 to 15 (2.5 times);
- Increasing problem precision (the precision to which a problem can be posed) by two times; and
- Reducing problem latency by 60 percent.

The increase in qubits and connectivity from the previous degree-6 topology to the degree-15 topology typically allows our Advantage processor to take inputs two to four times larger than those of the D-Wave 2000Q.

In addition, the Advantage annealing quantum system performance update released in October 2021 included several key changes that boosted performance over the original Advantage system release:

- An updated processor design that increased problem precision;
- Improvements in system control enabled faster anneal times; and
- An increased yield of qubits and couplers that allows more complex problems to be solved,

Expansion into gate-model: Our early focus on annealing quantum computing directly lends itself to our gate-model efforts. Many of the lessons learned in building a superconducting annealing quantum computing system are transferable to building a scalable superconducting gate-model quantum computer. Scale, superconducting chip fabrication, materials design, cryogenics, and intellectual property are all necessary and relevant for delivering a commercial, scalable gate-model system to the market. Our deep experience and built-from-the-ground-up commercial-scale design strategy give us a first-mover advantage over companies in the early stages of merely developing the building blocks of gate-model systems.

We believe the time is right to also pursue gate-model technology because:

- Gate-model quantum computing (“GMQC”) theory has matured considerably since 2004.
- Over the past 20 years, we have accrued considerable experience and intellectual property in quantum systems engineering, including cryogenics, environmental control, input/output and filtering, and scalable control and readout of superconducting devices. This can be directly brought to bear on building scalable GMQC technology.
- We have developed a mature superconducting VLSI design and manufacturing capability that can immediately be employed for our gate-model program. This is the only physical implementation of a quantum computing technology that can be utilized for both annealing and gate-model quantum computers.
- While there is still a need to further improve error-corrected GMQC theory to reduce overheads, both in physical circuit size and gate sequence depth and to the point where it can truly be practical to implement, we understand that a confluence of new theoretical developments, coupled with our practical quantum computing design experience, will ultimately be necessary to commercialize this technology.
- Power consumption and refrigeration: Our annealing quantum computers draw 12 kilowatts of nominal power and have used the same-sized dilution refrigerators for cooling since the 2010 release of the original D-Wave One system. This is despite an increase of 50x in the number of qubits since that first product. The refrigerators’ cryocoolers require the bulk of this power to provide cooling to 4 kelvin. While the computational power of our annealing systems has dramatically increased with each product generation, the power requirements have remained the same and are expected to do so for at least the next two system product generations. This contrasts with competitors who are using and developing massive dilution refrigerators, which will require increasingly more power to continue with technology development.

D-Wave’s 20-plus years of reliable operation: We have been delivering commercial quantum computers for longer than many of our competitors have been in existence. Our experience allows us to operate a field-tested service and support organization that can anticipate many technical challenges of quantum system deployment. Our Leap quantum cloud service currently offers more than 99 percent uptime.

Our Software, Tools, and Cloud Services Approach

Software development: Our software teams use Agile and Scrum methodologies to ensure customer requirements are met and that the highest priority features are included in each release to maximize the utility of our system. The development process for Ocean developer tools follows best practices for open-source products, and we use GitHub for all open-source code. As a result, developers can edit the code in their own repository and merge it with the original repository when it is ready for release, and external users can contribute to the codebase.

Ocean software development kit: Available on the D-Wave GitHub repository, the Ocean SDK is a suite of open-source tools for solving challenging problems with quantum computers and quantum hybrid solvers. The Ocean software stack provides a chain of tools that implements the steps needed to solve problems on D-Wave solvers.

Leap quantum cloud service: We are the first and only quantum computing company to offer secure, real-time access to quantum computers and quantum hybrid solvers via the cloud. Multiple QPUs are online, and the Leap service is multi-region, which means we have physical systems available in different geographical locations. In January 2022, we added to the quantum computers available within the Leap service by making public the 5,000-qubit Advantage quantum system at the Jülich Supercomputing Centre in Germany. In May 2022, we introduced the first Advantage quantum system physically located in the United States at the University of Southern California’s Information Sciences Institute (ISI), which is accessible via the Leap quantum cloud service.

Secure access and data protection: We implement industry-accepted controls and technology and combine enterprise-grade security features with comprehensive audits of our applications, systems, and networks to ensure customer data is protected. As of December 22, 2023, we are SOC 2 Type 2 compliant and received a report from a third-party auditor that contains no exceptions.

Leap hybrid solver service: Launched in 2020, the hybrid solver service (“HSS”) within our Leap service provides a combination of quantum and classical computation resources and advanced algorithms to solve problems of enterprise scale with up to one million variables (and up to 20,000 variables for fully connected graph problems). Several hybrid solvers are available within the HSS today to support different problem formulations. The Leap service’s hybrid solvers enable customers to benefit from D-Wave’s deep investment in researching, developing, optimizing, and maintaining quantum hybrid algorithms.

Key Strategic Relationships

NEC: We entered into a strategic investment and subsequent global re-seller agreement with NEC in April 2019 and December 2021, respectively. The relationship includes reselling our Leap quantum cloud service and professional services in NEC's core markets, primarily Japan and Australia.

Lockheed Martin: We have been working with Lockheed Martin ("Lockheed") since we leased the first commercial quantum computer to them in 2011. Since then, we have collaborated with Lockheed through the USC-Lockheed Martin Quantum Computing Center ("QCC"), hosted at the USC Viterbi School of Engineering's Information Sciences Institute. We renewed the Lockheed contract in 2020, which has led to important upgrades at the facility. On May 12, 2022, we announced the deployment at the QCC of the first Advantage quantum system physically located in the United States. The Advantage system is the first quantum computer built for business that contains the new Advantage performance update released in October 2021 and features the highly connected Pegasus topology as well as more than 5,000 qubits.

Jülich Supercomputing Centre: In October 2021, we completed the installation of the first Advantage performance update quantum system with 5,000-plus qubits and 15-way connectivity at the Jülich Supercomputing Centre. This installation is the cornerstone of the Jülich Unified Infrastructure for Quantum Computing lab. This quantum system is the first Leap service installation outside of North America and provides cloud access to the first practically usable quantum computer for researchers, governments, and enterprise customers in Europe.

AWS: In October 2022, we officially launched in AWS Marketplace, expanding and extending the reach of our quantum computing solutions. AWS Marketplace customers can purchase access to our Leap cloud service as well as professional services. D-Wave was the first pure-play quantum computing company with offerings available in AWS Marketplace.

Deloitte: We also work closely with Deloitte on quantum development projects, specifically in government, to help accelerate adoption of quantum computing solutions in the public sector.

QuantumBasel: In December 2022, we entered into a strategic collaboration with QuantumBasel, a Switzerland-based competence center for Industry 4.0. D-Wave is serving as the center's quantum optimization technology provider, giving tenants and customers access to the Advantage annealing quantum computer via the Leap quantum cloud service. In addition, the center's customers can engage with D-Wave's team of professional services experts to facilitate the analysis, formulation, and ultimately creation, of production-ready quantum computing applications.

Zapata AI: In February 2024, we announced a multi-year strategic partnership to develop and bring to market commercial applications that combine the power of generative AI and quantum computing technologies. The collaboration also supports joint go-to-market efforts that will include the exclusive availability of the commercial applications via a solver hosted in D-Wave's Leap quantum cloud service.

While strategically significant to our long-term goals, we have determined that our current agreements or other arrangements with each of these respective parties are not material to our business, financial condition, or results of operations.

Operation Agreements

On December 31, 2012, we entered into an agreement with Cypress for the purchase of available capacity of Cypress' 8" wafer semiconductor line for the purposes of manufacturing wafers as well as services related to the use of such semiconductor line (the "Semiconductor Line Operation Agreement"). On September 30, 2017, Cypress assigned the Semiconductor Line Operation Agreement to SkyWater Technology Foundry, Inc., to which we consented on November 9, 2017. The Semiconductor Line Operation Agreement, as amended, provides for an initial term of ten years followed by automatic extensions of one year unless either party provides the other party six (6) months prior written notice of its intention to terminate the agreement. On March 1, 2023, and January 24, 2024, we entered into amendments to the Semiconductor Line Operation Agreement to revise the pricing and quarterly commitments.

Competition

The quantum computing market is highly competitive. With new technologies and entrants into the market, we expect competition to continue to increase. Our competitive differentiators include being the only provider in the world both building an annealing quantum computing system and developing gate-model quantum computers, our longtime proven track record of delivering increasingly mature higher-performance quantum systems that scale, and our use cases with demonstrable business value.

In addition to being the only commercial supplier of annealing quantum computing systems, with the announcement of our *Clarity* product roadmap in October 2021, we are also pursuing gate-model quantum computing. We plan to validate gate-model multi-layer fabrication, demonstrate scalable on-chip control, and ultimately deliver a 5,000-qubit scaled gate-model system with either full or partial error correction. We are applying the learning from the development of our five generations of annealing quantum computers to the manufacturing, scale, and implementation of the gate-model program. At the same time, we continue to invest in our Advantage annealing quantum computing program with future generations of increasingly more powerful and connected annealing quantum computing systems. Other companies, including Rigetti Computing, IBM, Google, IonQ, Quantinuum, QuEra, Atom, Pasqal, PsiQuantum, and Xanadu, are pursuing gate-model quantum computing, each using different technologies for the qubits and control, and each at different levels of technical maturity. Approaches include superconducting, ion traps, photonics, spin qubits, and neutral atoms. A brief summary of a few of the approaches follows:

- The superconducting gate-model approach uses the same basic underlying technology as that found in our qubits. Still, there are significant differences in the details of the implementations, levels of integration, and the performance achieved to date, particularly in optimization and material simulation.
- The ion trap approach uses the state of atoms trapped in electric fields that are manipulated by electric fields and lasers for qubits. Current ion trap systems are in the range of about 20 qubits. While technologies such as optical interconnects have been proposed to connect many ion trap QPUs with high connectivity, this level of integration has not yet been demonstrated at a large enough scale to be used for business-sized problems, and early customer comparisons suggest that such technology is not commercially viable.
- The neutral atom approach uses the states of neutral atoms that are arranged and stabilized in an optical trap. Current neutral atom efforts are at the several hundred qubit scale.
- The photonic approach uses photons of light for qubits. These technologies are in the development stage, with little detail available on their level of integration or roadmaps.

All the above gate-model approaches are in the noisy intermediate-scale quantum (“NISQ”) era. This means that these architectures are not yet fully error corrected and have severe limitations on the number of 1- and 2-qubit gates that can be performed.

Our successful technological offering and trusted commercial readiness are evident as objectively assessed by U.S. National Institute of Standards and Technology (NIST), which analyzed the quantum technology readiness levels (“TRL”) across multiple quantum technologies in 2021. Using a scale from one to nine, NIST rated our technology at TRL 8 (mature technology) and other gate-model superconducting providers from TRL 1 to TRL 3 (basic and feasibility research).

With respect to larger technology companies versus pure quantum computing enterprises, quantum cloud access providers, including Amazon Braket and Microsoft Azure, do not currently have the full-featured benefits and real-time access of D-Wave’s real-time Leap quantum cloud service or quantum hybrid offerings. The quantum systems to which they offer access are developed by others, such as IonQ, Rigetti, or Quantinuum, and are significantly smaller in scale and capability when compared to D-Wave’s systems and our Leap and hybrid services.

Competitive analysis of the quantum industry should be viewed through the lens of what advantage customers can realize with real-world commercial applications. With our extensive intellectual property portfolio, record of commercial execution, peer-reviewed speed-ups on real-world quantum chemistry simulations, and emerging use cases demonstrating practical value to enterprise customers, we believe we are well positioned to compete, grow, and capture a significant share of the quantum computing market.

Intellectual Property

Development, know-how, and engineering skills are an essential component of our business, resulting in the creation of our broad intellectual property portfolio. We rely on a combination of patents, trademarks, and trade secrets, as well as contractual provisions and restrictions, to establish and protect our intellectual property and other proprietary rights in the United States, Canada, and other jurisdictions.

We pursue patent protection when we believe it is consistent with our overall intellectual property strategy and is cost effective. We have accumulated a broad patent portfolio that covers all the main aspects of our technology, including systems and software, and we intend to protect our innovative inventions.

Currently, we own all our core intellectual property and do not license in or out any of our material intellectual property. As of December 31, 2023, we owned more than 220 issued U.S. patents, which will expire between 2024 and 2041, and more than 200 additional issued and pending patents worldwide. Our patent portfolio is the third largest patent portfolio in the world related to quantum technology. Our pending and issued patents target both the hardware and software sides of our business, including systems, qubits and other devices, fabrication, architecture, system software, cryogenics, hybrid quantum computing, and applications of quantum computing. Currently, we own all elements of our core patent portfolio. As of December 31, 2023, we owned four registered U.S. trademarks and seven registered foreign trademarks. We had also registered domain names for websites we use in our business, such as dwavequantum.com, dwavesys.com, qubits.com, and similar variations.

In addition to the above, we also protect our intellectual property and other proprietary rights by entering into confidentiality and invention assignment agreements (or similar agreements) with our employees, consultants, collaborators, contractors, and other third parties.

Leadership

D-Wave is led by Dr. Alan Baratz, who became Chief Executive Officer in 2020. Previously, as executive vice-president of research and development and chief product officer, he drove the development, delivery, and support of all of D-Wave's products, technologies and applications. Dr. Baratz has more than 25 years of experience in product development and bringing new products to market at leading technology companies and software startups. As the first president of JavaSoft at Sun Microsystems, Dr. Baratz oversaw the growth and adoption of Java from its infancy to a robust platform supporting mission-critical applications in nearly 80 percent of Fortune 1000 companies. He has also held executive positions at Symphony, Avaya, Cisco, and IBM; served as chief executive officer and president of Versata, Zaplet, and NeoPath Networks; and was a managing director at Warburg Pincus. Dr. Baratz holds a doctorate in computer science from the Massachusetts Institute of Technology.

In addition, D-Wave has built an executive team that brings breadth and depth in diverse areas of expertise, including technology leadership, corporate strategy, and go-to-market execution. In particular, our executive team excels at building product roadmaps, delivering leading-edge technology products through the development and commercialization of technology, enabling companies to achieve successful outcomes, driving technology adoption in the market, new market creation, and growing revenue. Team members also draw from experience in taking companies public and scaling private and public companies.

Corporate History

D-Wave Systems, incorporated in British Columbia, Canada, in 1999 through its predecessor company, is a pioneer in the quantum industry. D-Wave Systems was the first company to deliver an annealing quantum computing system to a customer, to enable early complex optimization applications on quantum computers, to demonstrate peer-reviewed quantum mechanical effects within a quantum annealer, and to deliver real-time quantum access via the cloud.

On February 7, 2022, D-Wave Systems entered into the transaction agreement (the "Transaction Agreement") with DPCM Capital, Inc. ("DPCM"), D-Wave, DWSI Holdings Inc. ("Merger Sub"), DWSI Canada Holdings ULC ("CallCo"), and D-Wave Quantum Technologies Inc. ("ExchangeCo"), pursuant to which, among other things: (a) Merger Sub merged with and into DPCM, with DPCM surviving as a direct, wholly-owned subsidiary of D-Wave, (b) D-Wave indirectly acquired all of the outstanding share capital of D-Wave Systems and D-Wave Systems became an indirect subsidiary of D-Wave, with D-Wave becoming a public company and an SEC registrant as successor to DPCM (the "Merger").

D-Wave was incorporated as a corporation organized and existing under the Delaware's General Corporation Law on January 24, 2022. The Company was formed for the purpose of effecting a merger between DPCM, D-Wave, and certain other affiliated entities through a series of transactions constituting the Merger pursuant to the Transaction Agreement. The closing of the Merger occurred on August 5, 2022, and is herein referred to as "the Closing." On the date of the Closing, DPCM and D-Wave Systems became wholly-owned subsidiaries of, and are operated by, D-Wave. Upon the completion of the Merger, D-Wave succeeded to all of the operations of its predecessor, D-Wave Systems. On August 8, 2022, the common shares and warrants of D-Wave commenced trading on the NYSE under the ticker symbols "QBTS" and "QBTS.WT," respectively.

Governmental Regulations

Environmental Regulations

We are subject to numerous federal, state, provincial, local, and international environmental laws and regulations, including requirements regarding the protection of the environment and human health. There are significant capital, operating, and other costs associated with compliance with environmental laws and regulations related to solid and hazardous waste storage, treatment and disposal, and remediation of releases of hazardous materials. In addition, various authorities also regulate health, safety, and permitting. Laws and regulations may become more stringent in the future, which could increase costs of compliance or require us to make material changes to our operations, resulting in significant increases to the cost of production.

Privacy and Data Protection Regulations

We may receive, store, and otherwise process personal information and other data from and about our customers, employees, and from other stakeholders like our vendors. There are numerous federal, state, provincial, local, and international laws and regulations regarding privacy, data protection, information security, and the storing, sharing, use, processing, transfer, disclosure, retention, and protection of personal information and other content, the scope of which is rapidly changing, subject to differing interpretations and may be inconsistent among regions, countries and states, or conflict with other legal requirements. We strive to comply with applicable laws, regulations, policies, and other legal obligations relating to privacy, data protection, and information security.

The United States, Canada, the European Union, the United Kingdom, and other countries in which we operate are increasingly adopting or revising privacy, information security, and data protection laws and regulations that could have a significant impact on our current and planned privacy, data protection, and information security-related practices, our collection, use, sharing, retention, and safeguarding of customer, consumer and/or employee information, as well as any other third-party information we receive, and some of our current or planned business activities. In the United States, this includes the California Consumer Privacy Act of 2018 ("CCPA") which came into effect on January 1, 2020. In the European Union and the United Kingdom, this includes the General Data Protection Regulation ("GDPR"), which came into effect in May 2018. In Canada, this includes Canada's Personal Information Protection and Electronic Documents Act ("PIPEDA") and the Personal Information Protection Act in British Columbia.

We expect that there will continue to be new or changing laws, regulations, and industry standards concerning privacy, data protection, and information security proposed and enacted in other jurisdictions in which we operate. Such new or revised laws could impact our current and planned practices or business activities; they may also impact the computing services and software industry platforms and data providers we utilize, and thereby indirectly impact our business. For example, uncertainty in the laws and regulations affecting cross border transfers of personal data may affect the demand and functionality of our services and require us to implement substantial changes to our information technology infrastructure. In addition, laws affording consumers expanded privacy protections and control over their personal information may require us to modify our data processing practices and policies and to incur substantial costs and expenses in an effort to comply.

Human Capital Resources

Our employees are key to D-Wave's success. As of December 31, 2023, we had more than 200 employees across our systems, software, sales, marketing, and corporate teams. Approximately 64 percent of D-Wave's employees are based near our research and development headquarters in Burnaby, British Columbia, Canada. We continue to grow D-Wave's U.S. presence, primarily in the fabrication, software, professional services, and go-to-market areas, and have a small presence in Japan and the United Kingdom. We also engage a small number of consultants and contractors to supplement our permanent workforce. A majority of our employees are engaged in research and development and related functions, with approximately 20 percent having earned a PhD, many from the world's top ranked universities. And our go-to-market leaders have a track record of building and growing new markets, which we believe allows us to continue to build and capture the quantum computing market.

To date, D-Wave has not experienced any work stoppages, and none of our employees are subject to a collective bargaining agreement or represented by a labor union.

Available Information

Our Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K (including exhibits), and any amendment to these reports are filed with the SEC. Such reports and other information filed by us with the SEC and are available free of charge on our website at www.dwavequantum.com as soon as reasonably practicable after we electronically file that material with or furnish it to the SEC. For the avoidance of doubt, information contained on, or accessible through, our website is not incorporated into, and does not form a part of, this Form 10-K or any other report or document we file with the SEC.

Item 1A. Risk Factors

In this section, unless otherwise specified, the terms “we,” “our,” “us,” “D-Wave,” and “D-Wave Quantum” refer to D-Wave Quantum Inc. and its consolidated subsidiaries. You should carefully review and consider the following risk factors in addition to the other information included in this Form 10-K, including matters addressed in the section entitled “Cautionary Note Regarding Forward-Looking Statements”, the section entitled “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and the consolidated financial statements and notes to the consolidated financial statements included herein. The occurrence of one or more of the events or circumstances described in these risk factors, alone or in combination with other events or circumstances, may have a material adverse effect on the business, cash flows, financial condition and results of operations of D-Wave Quantum. The risks discussed below may not prove to be exhaustive and are based on certain assumptions made by us that later may prove to be incorrect or incomplete. We may face additional risks and uncertainties that are not presently known to us, or that are currently deemed immaterial, which may also impair D-Wave Quantum’s business or financial condition.

Risks Related to D-Wave Quantum’s Financial Condition and Status as an Early-Stage Company

We are in our growth stage which makes it difficult to forecast our future results of operations and our funding requirements.

Near term, our ability to generate revenue will largely be dependent on our ability to continue to develop and produce annealing quantum computers and hybrid quantum-classical solvers that are able to solve customer business problems at scale. Longer term, our ability to generate revenue will also be dependent on our ability to develop, produce and commercialize gate-model quantum computers. We have commercialized annealing quantum computers, but we have not yet commercialized a gate-model quantum computer. Our product roadmap may not be realized as quickly as hoped, or at all.

Our ability to scale our business is dependent upon building referenceable quantum-hybrid applications. Additionally, we must accelerate sales cycles to meet revenue projections and our business depends on our ability to successfully upsell customers through our on-board process and move them into production applications.

The development of our scalable business model will require the incurrence of a substantially higher level of costs than incurred to date, while our revenues may not substantially increase until more powerful products are produced, which requires a number of technological advancements which may not occur on the currently anticipated timetable or at all. As a result, our historical results should not be considered indicative of our future performance. Further, in future periods, our growth could slow or decline for any number of reasons, including but not limited to failing to achieve targeted demand for our services, increased competition, changes to technology, inability to scale up our technology, a decrease in the growth of the overall market, or our failure, for any reason, to continue to take advantage of growth opportunities.

We have also encountered, and will continue to encounter, risks and uncertainties frequently experienced by growing companies in rapidly changing industries. If our assumptions regarding these risks and uncertainties and our future growth are incorrect or change, or if we do not address these risks successfully, our operating and financial results and our funding needs could differ materially from our expectations, and our business could suffer. Our success as a business ultimately relies upon fundamental research and development breakthroughs in the coming years and decade. There is no certainty these research and development milestones will be achieved for the costs we have forecast or as quickly as hoped, or at all.

We have a history of losses and expect to incur significant expenses and continuing losses for the foreseeable future.

We have incurred net losses since inception and experienced negative cash flows from operations. To date, our primary sources of capital have been through private placements of convertible preferred shares, revenue from the sale of our products and services, government assistance and the Venture Loan and Security Agreement, dated as of March 3, 2022, between D-Wave, D-Wave US Inc., D-Wave Government Inc., D-Wave Commercial Inc., D-Wave International Inc., D-Wave Quantum Solutions Inc. and Omni Circuit Boards Ltd., as borrower, and PSPIB Unitas Investments II Inc., as lender. During the year ended December 31, 2023 and 2022 we incurred net losses of \$82.8 million and \$53.7 million, respectively. We expect to incur additional losses and higher operating expenses for the foreseeable future as we operate as a public company and continue to invest in research and development and go-to-market programs. We have determined that additional financing will be required to fund our operations for the next 12 months and our ability to continue as a going concern is dependent upon obtaining additional capital and financing. Due to the large number of DPCM stockholders that exercised their redemption rights in connection with the Transaction, only approximately \$9 million of cash from the DPCM Trust Account became available to D-Wave Quantum as of the closing of the Transaction, out of approximately \$300 million that had been available, which significantly reduced the potential enhancement to our liquidity and capital resources that was sought to be achieved through the Transaction. If D-Wave is unable to obtain additional financing, operations will be scaled back or discontinued. These conditions give rise to material uncertainties that cast substantial doubt on the ability of D-Wave to continue as a going concern.

In addition, in connection with the Transaction, the board of directors of DPCM considered, among other things, internal financial forecasts prepared by, or at the direction of, the management of D-Wave Quantum (the "*Transaction Forecasts*"). None of these projections or forecasts were prepared with a view towards public disclosure or compliance with the published guidelines of the SEC, U.S. Generally Accepted Accounting Principles ("*GAAP*"), International Financial Reporting Standards ("*IFRS*") or the guidelines established by the American Institute of Certified Public Accountants for preparation and presentation of financial forecasts. Neither DPCM's independent registered public accounting firm nor D-Wave Quantum's independent registered public accounting firm have audited, reviewed, examined, compiled nor applied agreed-upon procedures with respect to the unaudited prospective financial information, and accordingly, they do not express an opinion or any other form of assurance with respect thereto. Any projections and forecasts were inherently based on various estimates and assumptions that were subject to the judgment of those preparing them. Projections and forecasts were also subject to significant economic, competitive, industry and other uncertainties and contingencies, all of which were difficult or impossible to predict and many of which were beyond the control of D-Wave Quantum. With respect to certain key metrics, including revenue, we do not anticipate meeting the Transaction Forecasts due primarily to delays in our fund raising activities such as the significant redemptions of DPCM stockholders and inability to raise funds due to the Floor Price Limitation under the Purchase Agreement described below, which have adversely affected our liquidity position and ability to pursue certain growth opportunities, and which will require us to seek alternative sources of financing as described below.

Our primary uses of cash are to fund our operations as we continue to grow our business. We will require a significant amount of cash for expenditures as we invest in our growth strategy and ongoing research and development and business operations. Until such time as we can generate significant revenue from sales of our QCaaS offering and our professional services, we expect to finance our cash needs through public and/or private equity (including sales pursuant to the Purchase Agreement, assuming we are able to make such sales) and/or debt financings or other capital sources, including strategic partnerships. However, we may be unable to raise sufficient funds or enter into such other arrangements, when needed, on favorable terms or at all. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be, or could be, diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our shareholders. Debt financing and equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends.

Following the Transaction, we had 18,000,000 Warrants outstanding (17,916,560 Warrants as of December 31, 2022), each Warrant being exercisable for 1.4541326 Common Shares at an exercise price of \$11.50. Whether warrant holders will exercise their Warrants, and therefore the amount of cash proceeds we would receive upon exercise, is dependent upon the trading price of the Common Shares. Therefore, if and when the trading price of the Common Shares is less than approximately \$7.91, the effective exercise price of the Warrants per one Common Share, we expect that warrant holders would not exercise their Warrants. We could receive up to an aggregate of approximately \$207 million if all of the Warrants are exercised for cash, but we would only receive such proceeds if and when the warrant holders exercise the Warrants. The Warrants may not be or remain in the money during the period they are exercisable and prior to their expiration, and the Warrants may not be exercised prior to their maturity on August 5, 2027, even if they are in the money, and as such, the Warrants may expire worthless and we may receive minimal proceeds, if any, from the exercise of Warrants. To the extent that any of the Warrants are exercised on a “cashless basis,” we will not receive any proceeds upon such exercise. As a result, we do not expect to rely on the cash exercise of Warrants to fund our operations. Instead, we intend to rely on other sources of cash discussed below to continue to fund our operations. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, or substantially reduce our quantum computing development and go-to-market efforts.

We have not yet achieved profitability on an annual or quarterly basis and we do not know if we will be able to achieve or sustain, if achieved, profitability. We plan to continue to invest in our research and development, sales, marketing and professional services efforts, and we anticipate that our operating expenses will continue to increase as we scale our business and expand our operations. Our general and administrative expenses have increased and are expected to continue to increase as a result of our growth and operating as a public company. We have determined that additional financing will be required to fund our operations for the next 12 months and our ability to continue as a going concern is dependent upon obtaining additional capital and financing. Our expenses may be greater than we anticipate, and our investments intended to reach our technical targets and scale our business and make our technical infrastructure more efficient may not be successful. Our ability to achieve and sustain profitability is based on numerous factors, many of which are beyond our control. We may never be able to generate sufficient revenue to achieve or sustain profitability.

On June 16, 2022, D-Wave Quantum, D-Wave Systems and DPCM entered into the Purchase Agreement pursuant to which Lincoln Park agreed to purchase from D-Wave Quantum, at the option of D-Wave Quantum, up to \$150,000,000 of Common Shares from time to time over a 36-month period following the Commencement Date. However, the use of the Purchase Agreement to fund operations is subject to significant limitations, including but not limited to, the Floor Price Limitation and the Beneficial Ownership Limitation. We are aware that such use of the Purchase Agreement, if available, may cause significant dilution, depress our share price, and make it more difficult to achieve required financing.

In addition, on April 13, 2023, the Company entered into the Term Loan, with PSPIB as the lender (the “*Term Loan*”), as amended on June 16, 2023, July 13, 2023, July 20, 2023, October 6, 2023 and February 7, 2024. The Term Loan contains certain restrictions and conditions, some of which affect the Company’s use of the Purchase Agreement. Principally, if the Company issues Common Shares, including under the Purchase Agreement, then the Company must promptly prepay the loans in an aggregate amount equal to the proceeds thereof, with such prepayment being subject to an additional premium equal to 10% of the amount then prepaid to PSPIB.

We may make decisions that would reduce our short-term operating results if we believe those decisions will improve the experiences of our customers or if we believe such decisions will improve our operating results over the long-term. These decisions may not be consistent with the expectations of investors and may not produce the long-term benefits we expect, in which case our business may be materially and adversely affected. See [“*Liquidity and going concern*”] in the notes to the audited consolidated financial statements of the Company as of the years ended December 31, 2023 and 2022 and “*Management’s Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources.*”

Our ability to receive the advancement of funds under the Term Loan are subject to a number of conditions, which, if not met, may prohibit us from receiving advancements under the Term Loan, which would negatively impact our financial condition.

The Term Loan made an aggregate principal amount of \$50.0 million available to the Company in three tranches, each subject to certain conditions being met. The Company has received the first two tranches, but has not yet met all conditions to receive the third tranche. If we cannot meet such conditions, we may not receive the associated advancement of funds under the third tranche. For example, conditions include receiving certain Canadian governmental consents, producing an intellectual property valuation report satisfactory to PSPIB, and raising at least \$25 million in financing from non-dilutive sources on terms reasonably acceptable to PSPIB. Failure to satisfy these or any other conditions in the Term Loan could prevent us from receiving the available funds under the third tranche, which would negatively impact our financial condition.

If we do not adequately fund our research and development efforts or use research and development teams effectively or build a sufficient number of annealing quantum computer production systems, we may not be able to achieve our technological goals, build sufficient systems, meet customer and market demand, or compete effectively and our business and operating results may be harmed.

To remain competitive, we must continue to develop new product offerings and reach technological milestones, as well as add features and enhancements to our existing platform and products. Maintaining adequate research and development personnel and resources to meet the demands of the market is essential. If we experience high employee or management turnover, or a lack of other research and development resources, we may miss market opportunities. The success of our business is dependent on our research and development teams developing a roadmap that allows us to achieve technical milestones for both annealing and gate-model quantum computing, including with respect to our hybrid solvers and our Leap and Ocean platforms, retain and increase the spending of our existing customers and attract new customers. The computing industry is quickly evolving and we may invest significantly in particular functionality or integrations that may become obsolete in the future, and any future product offerings, features or enhancements that we develop may be unsuccessful. The success of any new product offerings, enhancements or features depends on several factors, including our understanding of market demand, timely execution, successful introduction, and market acceptance. We may not successfully develop new features or enhance our existing platform and products to meet customer needs or our new products, features or enhancements may not achieve adequate acceptance in the market. Additionally, our improvements and enhancements may not result in our ability to recoup our investments in a timely manner, or at all. We may make significant investments in new offerings, features or enhancements that may not achieve expected returns. Further, many of our competitors may expend a considerably greater amount of funds on their research and development programs, and those that do not may be acquired by larger companies that would allocate greater resources to our competitors' research and development programs. Our failure to maintain adequate research and development resources, to use our research and development resources efficiently or to compete effectively with the research and development programs of our competitors could materially adversely affect our business.

Our estimates of the magnitude of the market opportunity, forecasts of market growth and our operating metrics may prove to be inaccurate and may not be indicative of our future growth.

Our estimates of market opportunity included in this Form 10-K may prove to be inaccurate and may not be indicative of our future growth or performance. Market opportunity estimates and growth forecasts are subject to significant uncertainty and are based on assumptions and estimates that may not prove to be accurate. While our estimate of the TAM included in this Form 10-K is made in good faith and is based on assumptions and estimates we believe to be reasonable under the circumstances, this estimate may not prove to be accurate. Further, even if the estimate of our market opportunity does prove to be accurate, we could fail to capture significant portions, or any portion, of the available markets. Alternatives to our quantum computing products may present themselves and if they do, could substantially reduce the market for our computing services. Advances in classical computing may prove more robust for longer than currently anticipated and could adversely affect the timing of any quantum advantage being achieved, if at all. Any expansions in our markets depend on a number of factors, including the cost, performance, and perceived value associated with our products and services. In making such forecasts, we rely on data provided by industry sources and customers, among other things, that we have not independently verified and such data may not be accurate, and any inaccuracy will affect the accuracy of our forecasts. The accuracy of our forecasts may also be affected by human error in the interpretation of such data.

Our business could be harmed if we fail to manage growth effectively.

If we fail to manage growth effectively, our business, results of operations and financial condition could be harmed. We anticipate that a period of significant expansion will be required to address potential growth. This expansion will place a significant strain on our management, operational and financial resources. Expansion will require significant cash investments and management resources. Such investments may not result in additional sales of our products or services, and we may not be able to avoid cost overruns or be able to hire additional personnel as required. In addition, we will also need to ensure our compliance with regulatory requirements in various jurisdictions applicable to the sale, installation and servicing of our products. To manage the growth of our operations and personnel, we must establish appropriate and scalable operational and financial systems, procedures and controls and establish and maintain a qualified finance, administrative and operations staff. We may be unable to acquire the necessary capabilities and personnel required to manage growth or to identify, manage and exploit potential strategic relationships and market opportunities. The growth we have experienced in our business places significant demands on our operational infrastructure. The scalability and flexibility of our platform depends on the functionality of our technology and network infrastructure and its ability to handle increased traffic and demand for processing and bandwidth. Any problems with the transmission of increased data and requests could result in harm to our brand or reputation.

Our growth has placed, and will likely continue to place, a significant strain on our managerial, administrative, operational, financial and other resources. As we grow, we will be required to continue to improve our operational and financial controls and reporting procedures and we may not be able to do so effectively. Furthermore, some members of our management do not have significant experience managing a large global business operation, so our management may not be able to manage such growth effectively. As such, we may be unable to manage our revenue and expenses effectively in the future, which may negatively impact our gross profit or operating expenses. In managing our growing operations, we are also subject to the risks of over-hiring and/or overcompensating our employees and over-expanding our operating infrastructure. We intend to further expand our overall business, including headcount, with no assurance that our revenues will continue to grow. In addition, North America is currently experiencing one of the most competitive markets for human capital talent in recent times. Coupled with the incredibly complex nature of the quantum industry, we may face significant challenges and delays in hiring and challenges with employee retention.

If we fail to attract new customers and retain and increase the spending of existing customers, our revenue, business, results of operations, financial condition and growth prospects would be harmed.

Even if the market in which we compete achieves the forecasted growth, our business could fail to grow at similar rates, if at all. Our success will depend upon our ability to expand our platform's capabilities, scale our operations, increase our sales capability and successfully complete professional services projects, that may or may not progress to in-production applications.

Our long-term growth will ultimately be dependent upon our ability to successfully scale up manufacturing of our products in sufficient quantity and quality and in a cost-effective manner. Unforeseen issues associated with scaling up and constructing quantum computing technology at commercially viable levels could negatively impact our business, financial condition and results of operations.

Our growth is dependent upon our ability to successfully market and sell quantum computing technology. One of our marketing strategies is to drive traffic to our cloud-based services. We utilize various unpaid content marketing strategies, including customer events, seminars, webinars, blogs, thought leadership and social media engagement, as well as paid advertising and third-party event sponsorship, to attract prospective users of our cloud-based services. These unpaid or paid efforts may not attract a sufficient volume and quality of traffic to our cloud-based services and, in the future, we may be required to increase our marketing spend to achieve our volume and quality of traffic targets.

We depend on our ability to retain existing senior management and other key employees and qualified, skilled personnel and to attract new individuals to fill these roles as needed. If we are unable to do so, such failure could adversely affect our business, results of operations and financial condition.

Our future performance depends on the continued service and contributions of our senior management, and other key employees to execute on our business plan, to develop our platform and products, to attract and retain customers and to identify and pursue strategic opportunities. The failure to properly manage succession plans, develop leadership talent, and/or the loss of services of senior management or other key employees could significantly delay or prevent the achievement of our strategic objectives. From time to time, there may be changes in our senior management team resulting from the hiring or departure of executives, which could disrupt our business. In addition, our ability to identify, hire, develop, motivate and retain qualified personnel will directly affect our ability to maintain and grow our business, and such efforts will require significant time, expense and attention. The inability to attract or retain qualified personnel or delays in hiring required personnel may seriously harm our business, financial condition and operating results. Our ability to continue to attract and retain highly skilled personnel, specifically employees with technical and engineering skills and employees with high levels of experience in designing and developing software, will be critical to our future success. In addition, to the extent we hire personnel from competitors, we may be subject to allegations that such personnel have been improperly solicited or have divulged proprietary or other confidential information. The loss of service of senior management or other key employees could significantly delay or prevent the achievement of our development and strategic objectives. The replacement of any of our senior management personnel or other key employees would likely involve significant time and costs, and such loss could adversely affect our revenue, business, results of operations and financial condition.

Our business and growth are dependent on the success of our strategic relationships with third parties.

We depend on, and anticipate that we will continue to depend on, various third-party suppliers in order to sustain and grow our business. Failure of any of these suppliers to continue to provide products and services to maintain, support or secure their technology platforms or our integrations, or errors or defects in their technologies, products or services, could adversely affect our relationships with our customers, damage our brand and reputation and result in delays or difficulties in our ability to provide our platform. Our ability to produce and scale our annealing and gate model quantum computers is dependent also upon components we must source from the electronics and semiconductor industries. Shortages or supply interruptions in any of these components will adversely impact our financial performance.

Our platform and products depend on the ability to access and integrate with third-party cloud providers. In particular, we have developed our platform and products to integrate with certain third-party cloud providers and the third-party applications of other parties. If we choose or are required to change cloud providers, we will incur costs to port our platform and products to a new service and may experience service interruptions during a change of cloud provider. Generally, third-party cloud providers and the data we receive from the third-party cloud providers are written and controlled by the application provider. Any changes or modifications to the third-party cloud providers or the data provided could negatively impact the functionality of, or require us to make changes to, our platform and products, which would need to occur quickly to avoid interruptions in service for our customers. See *“Our products and services are dependent upon our relationship with third-party providers and any disruption of or interference with our use of such third-party providers would adversely affect our business, results of operations and financial condition.”*

Scaling our business is heavily dependent on our ability to build and maintain relationships with consulting and service partners and assist them in establishing or expanding their business by developing solutions that utilize our products and services. Solutions that utilize our products and services may compete with other quantum or classical-computing based solutions developed and/or marketed by other suppliers and our solutions may lose favor with our partners. Our current distribution partners may cease or reduce marketing our solutions with limited or no notice and with little or no penalty. Our distribution partners will generally have no obligation to maintain or renew their contractual arrangements with us and generally may terminate such arrangements with limited notice and/or transition periods. New distribution partners require extensive training and could take extended periods to achieve productivity. If any of our current or potential partners elect to not utilize our products or services, or reduce their current or potential use of our technology in favor of competing products, we may have to change our product strategies, which could have a material and adverse effect on our business, operating results and financial condition.

Currency exchange rate fluctuations may negatively affect our results of operations.

Our revenues are denominated in U.S. dollars, while some of our operating expenses, including relating to employees, are incurred in Canadian dollars. As a result, our results of operations will be adversely impacted by an increase in the value of the Canadian dollar relative to the U.S. dollar. Exchange rate fluctuations may also affect our revenue growth rates as some of our customer agreements are priced in the local currency of the country in which the customer is located and is also expected to be denominated in that currency. As a result, we will be further exposed to currency fluctuations to the extent non-U.S. dollar revenues from our platform increase. The value of the Canadian dollar relative to the U.S. dollar has varied significantly and investors are cautioned that past and current exchange rates are not indicative of future exchange rates.

Risks Related to D-Wave Quantum’s Business and Industry

The immature market for quantum computing may lead to us misreading market demand and the timeframes it will take to close customer contracts and grow revenue, which would adversely affect our business, results of operations and financial condition.

In order to grow our business, we will need to continually evolve and scale our business and operations to meet customer and market demand. Quantum computing technology has a limited history of being sold at large-scale commercial levels. Evolving and scaling our business and operations places increased demands on our management as well as our financial and operational resources to:

- effectively manage organizational change;
- design scalable processes;
- accelerate and/or refocus research and development activities;
- expand supply chain and distribution capacity, and ultimately expand manufacturing capacity;
- increase sales and marketing efforts;
- scale and manage our professional services;
- broaden customer-support and services capabilities;
- maintain or increase operational efficiencies;
- scale support operations in a cost-effective manner;
- implement appropriate operational and financial systems; and
- maintain effective financial disclosure controls and procedures.

We may not be able to scale our products and services as necessary to meet market demand. We have no experience in scaling our cloud services infrastructure or professional services globally. We may not be able to cost-effectively manage the scale of our cloud services infrastructure or professional services at a scale or quality consistent with customer demand in a timely or economical manner.

We are currently constructing advanced generations of our products. As noted above, there are significant technological and logistical challenges associated with developing, producing, marketing, selling and distributing products in the advanced technology industry, including our products, and we may not be able to resolve all of the difficulties that may arise in a timely or cost-effective manner, or at all.

Our technical roadmap and plans for commercialization involve technology that is not yet available for customers and may never become available or meet desired technical specifications.

Our current and planned products are inherently complex and incorporate technology and components that have not been used for other applications and that may contain defects and errors, particularly when first introduced. We have a limited frame of reference from which to evaluate the long-term performance of our products and services and we may be unable to detect and fix any defects in our quantum computers or cloud services infrastructure prior to the sale of products or services to potential consumers. Our products may contain defects in design, manufacturing and/or delivery that may cause them to fail to perform as expected or may require repair, recalls and/or design changes. We also cannot guarantee the consistency of our cloud services offerings. These could be affected by infrastructure downtime either within our own service or because of third-party service providers on which we are dependent. If our products or services fail to perform as expected, customers may delay orders or terminate further orders, each of which could adversely affect our sales and brand and could adversely affect our business, prospects and results of operations.

If we cannot evolve and scale our business and operations effectively, we may not be able to execute our business strategies in a cost-effective manner and our business, financial condition, profitability and results of operations could be adversely affected.

Building quantum computers requires advances in both science and engineering, and we may not have the ability to deliver those advances. The markets in which we operate are still rapidly evolving and highly competitive and the impact of rapidly changing science and engineering technologies could have an impact on the delivery of our technical roadmap which means that future generations of products both in quantum annealing and in gate model may be delayed or may never be delivered. We could also face the same challenges in our ability to scale our hybrid solvers to effectively meet commercial requirements. If this happens, our technical roadmap may be delayed or may never be achieved, either of which would have a material impact on our business, financial condition or results of operations.

Our business model includes a relatively new phased engagement model, with customers transitioning through the phases. If we cannot successfully convert customers through the phases to the extent or at the rate that we expect, our business will be negatively impacted and could fail.

Our success depends, in significant part, on our ability to engage our customers through all phases of our engagement model (discovery, proof of concept, pilot deployment and full production) and collaboratively work with our customers and demonstrate the value of our technology. This engagement model was introduced in early 2021 and is a shift from our historical sales model. If our customers do not dedicate sufficient resources to each phase of our engagement model or their challenges or technology are not addressable by or compatible with our products and services, then our anticipated projections and revenues would be impacted. In addition, our products and services may not meet our customers' functional, performance, technical or other requirements, which would have a negative impact on revenues. The market for our technology is still rapidly evolving and we may be required to change the duration, pricing, or structure of any or all of the phases of our model as we continue to develop our technology and deliver more engagement.

If our customers do not perceive the benefits of our technology, or if our technology does not drive continued progression of customers through the phases, then our market may not develop as we anticipate, or at all, or it may develop slower than we expect. If any of these events occur, it could have a material adverse effect on our business, financial condition or results of operations.

Our industry is competitive on a global scale, from both quantum and classical competitors, and we may not be successful in competing in this industry or establishing and maintaining confidence in our long-term business prospects among current and future partners and customers, which would materially harm our reputation, business, results of operations and financial condition.

The markets in which we operate are rapidly evolving and highly competitive. As these markets continue to mature and new technologies and competitors enter such markets, we expect competition to intensify. Our current competitors include:

- large, well-established tech companies that generally compete in all of our markets, including Google, Quantinuum, IBM, Microsoft, Intel and AWS;
- companies based in countries such as China, Russia, Canada, the United States, Australia and the United Kingdom, and those in the European Union as of the date of this Form 10-K and we believe additional countries in the future;
- less-established public and private companies with competing technology, including companies located outside the United States;
- existing or new entrants seeking to enter the quantum annealing space; and
- new or emerging entrants seeking to develop competing technologies.

We compete based on various factors, including technology, performance, platform availability, price, brand recognition and reputation, customer support and differentiated capabilities, including ease of administration and use, scalability and reliability, data governance and security. Many of our competitors have substantially greater brand recognition, customer relationships, and financial, technical and other resources, including an experienced sales force and sophisticated supply chain management. They may be able to respond more effectively than us to new or changing opportunities, technologies, standards, customer requirements and buying practices. In addition, many countries are focused on developing quantum computing solutions either in the private or public sector and may subsidize quantum computers which may make it difficult for us to compete. Many of these competitors do not face the same challenges we do in growing our business. In addition, other competitors might be able to compete with us by bundling their other products and services in a way that does not allow us to offer a competitive solution.

Additionally, we must be able to achieve our objectives in a timely manner lest quantum computing lose ground to competitors, including competing technologies. Because there are a large number of market participants, including certain sovereign nations, focused on developing quantum computing technology, we must dedicate significant resources to achieving any technical objectives on the timelines established by our management team. Any failure to achieve objectives in a timely manner could adversely affect our business, operating results and financial condition.

For all of these reasons, competition may negatively impact our ability to maintain and grow consumption of our platform or put downward pressure on our prices and gross margins, any of which could materially harm our reputation, business, results of operations, and financial condition.

Our products and services are dependent upon our relationship with third-party providers and any disruption of or interference with our use of such third-party providers would adversely affect our business, results of operations and financial condition.

We rely upon third parties to operate our platform, third party facilities to house some of our systems and third parties to provide our services. Any disruption of or interference with our use of such third-party providers or locations would adversely affect our business, results of operations and financial condition. If these services provided by third parties become unavailable due to extended outages, interruptions, or because they are no longer available on commercially reasonable terms, we could experience delays in our ability to provide our solutions or run our business and our expenses could increase, our ability to manage finances could be interrupted, and our processes for managing sales of our platform and supporting our customers could be impaired until equivalent services, if available, are identified, obtained, and implemented.

We have experienced, and expect that in the future we may experience, interruptions, delays and outages in service and availability from time to time due to a variety of factors, including infrastructure changes, human or software errors, website hosting disruptions and capacity constraints. Capacity constraints could be due to a number of potential causes including technical failures, natural disasters, fraud or security attacks. In addition, if our security, or that of our hosting provider, is compromised, our platform or products are unavailable or our users are unable to use our products within a reasonable amount of time or at all, then our business, results of operations and financial condition could be adversely affected. Our ability to conduct security audits on our hosting provider is limited and our contracts do not contain strong indemnification terms in our favor. In some instances, we may not be able to identify and/or remedy the cause or causes of these performance problems within a period of time acceptable to our customers. It may become increasingly difficult to maintain and improve our platform performance, especially during peak usage times, as our products become more complex and the usage of our products increases. To the extent that we do not effectively address capacity constraints, either through our hosting provider or an alternative provider of cloud infrastructure, our business, results of operations and financial condition may be adversely affected. In addition, any changes in service levels from our hosting provider may adversely affect our ability to meet our customers' requirements.

Any of the above circumstances or events may harm our reputation, cause customers to stop using our products, impair our ability to attract new customers and increase revenue from existing customers, subject us to financial penalties and liabilities under our service level agreements and otherwise harm our revenue, business, results of operations and financial condition.

The design and manufacturing of our quantum computers are dependent on a number of critical suppliers and unknown supply chain issues that could delay the introduction of our products and services or cause a significant disruption in our supplier base could have a material adverse effect on our business, financial condition and results of operations.

We are reliant on our own manufacturing of components as well as on third-party suppliers for components necessary to develop and manufacture our quantum computing solutions. Factors that could have an adverse impact on the availability of these components include:

- our inability to enter into agreements with suppliers on commercially reasonable terms, or at all;
- difficulties of suppliers ramping up their supply of materials to meet our requirements;
- a significant increase in the price of one or more components, including due to industry consolidation occurring within one or more component supplier markets or as a result of decreased production capacity at manufacturers;
- any reductions or interruption in supply, including due to technological problems, equipment malfunctions, regulatory actions or disruptions on our global supply chain as a result of large scale public health restrictions or geopolitical factors, which we have experienced, and may in the future experience;
- financial problems of either contract manufacturers or component suppliers;
- significantly increased freight charges, or raw material costs and other expenses associated with our business;
- a failure to develop our supply chain management capabilities and recruit and retain qualified professionals;
- a failure to adequately authorize procurement of inventory;
- a failure to adequately maintain our or our suppliers' manufacturing equipment; or
- a failure to appropriately cancel, reschedule, or adjust our requirements based on our business needs.

If any of the aforementioned factors were to materialize, it could cause us to halt production of our quantum computing solutions and/or entail higher manufacturing costs, any of which could materially adversely affect our business, operating results, and financial condition and could materially damage customer relationships. Additionally, other factors beyond our control or which we do not presently anticipate could also affect our suppliers' ability to deliver components to us on a timely basis.

We do not have the history with our solutions or pricing models necessary to accurately predict optimal pricing necessary to attract new customers and retain existing customers.

We may need to change our pricing model from time to time. As the market for our platform matures, or as competitors introduce new solutions that compete with ours, we may be unable to attract new customers at the same prices or based on the same pricing models that we have used historically. Our assessments of competitive pricing may not be accurate and we could be underpricing or overpricing our platform and services. Further, in the past we concentrated on selling the hardware needed for customers to run dedicated systems. We have now transitioned from selling systems to selling cloud services and have added professional services as well. Our limited history of selling cloud and professional services means we do not have long-term market data on the optimal method of pricing our services and maximizing the opportunities they represent. If we do not implement a services-based business well, our financial results may suffer. In addition, if the offerings on our platform or our services change, we may need to revise our pricing strategies. Any such changes to our pricing strategies or our ability to efficiently price our offerings could adversely affect our business, results of operations and financial condition. In addition, as we continue to expand internationally, we also must determine the appropriate pricing strategy to enable us to compete effectively internationally. Pricing pressures and decisions could result in reduced sales, reduced margins, losses or the failure of our platform to achieve or maintain more widespread market acceptance, any of which could negatively impact our overall business, results of operations and financial condition. Moreover, larger organizations, which are a primary focus of our direct sales efforts, may demand substantial price concessions. As a result, we may be required to price below our targets in the future, which could adversely affect our revenue, gross margin, profitability, cash flows and financial condition.

Competitive pressures may put pressure on our pricing, which may require us to reduce our pricing in order to provide competitively priced access to our products and services.

We face competition in various aspects of our business and expect that such competition to intensify in the future as existing and new companies introduce and enhance existing services or create new services. The markets for our services in general are competitive. Competition in these markets may increase further if economic conditions or other circumstances cause customer bases and client spending to decrease and service providers to compete for fewer client resources. Our competitors may be able to undertake more effective marketing campaigns, obtain more data, adopt more aggressive pricing policies, make more attractive offers to potential employees, clients and advertisers, or may be able to respond more quickly to new or emerging technologies or changes in user requirements. If we are unable to retain clients or obtain new clients, our revenues could decline. Increased competition could result in lower revenues and higher expenses, which would reduce our profitability.

The quantum computing industry is in its early stages and is volatile, and if it does not develop, if it develops slower than we expect, if it develops in a manner that does not require use of our products and services, if it encounters negative publicity or if our solution does not drive commercial engagement, the growth of our business will be harmed.

The nascent market for quantum computers is still rapidly evolving, characterized by rapidly changing technologies, competitive pricing and competitive factors, evolving government regulation and industry standards, and changing customer demands and behaviors. If the market for quantum computers in general does not develop as expected, or develops more slowly than expected, our business, prospects, financial condition and operating results could be harmed.

We have focused our efforts on the optimization market with our annealing quantum computers, and in the near term expect our business to grow from this market. If optimization does not require quantum computing or if other classical or quantum solutions perform better than our products and services, we could see a decrease in customer uptake and revenue.

In addition, our growth and future demand for our products is highly dependent upon the adoption by developers and customers of quantum computing, as well as on our ability to demonstrate the value of quantum computing to our customers. Delays in future generations of our quantum computers or technical failures at other quantum computing companies could limit market acceptance of our solution. Negative publicity concerning our solution or the quantum computing industry as a whole could limit market acceptance of our solution. While we believe quantum computing will solve many large-scale problems, we do not yet have evidence that quantum computers will be able to do so and such problems may never be solvable by quantum computing technology. If our customers do not perceive the benefits of our solution, or if our solution does not drive customer engagement, then our market may not develop at all, or it may develop more slowly than we expect. If any of these events occur, it could have a material adverse effect on our business, financial condition or results of operations. If progress towards “quantum advantage” (as described below) slows relative to expectations, it could adversely impact revenues and customer confidence to continue to pay for testing, access and “quantum readiness.” This would harm or even eliminate revenues in the period before quantum advantage.

If our products and services fail to deliver customer value to a broader range of customers than classical approaches, our business, financial condition and future prospects may be harmed.

“Quantum advantage” refers to the moment when a quantum computer can compute faster than existing classical computers, while quantum supremacy is achieved once quantum computers are powerful enough to complete calculations that traditional supercomputers cannot perform at all. Broad quantum advantage is when quantum advantage is seen in many applications and developers prefer quantum computers to a traditional computer. No current quantum computers, including the D-Wave quantum hardware, have reached a broad quantum advantage, and they may never reach such advantage. Achieving a broad quantum advantage will be critical to the success of any quantum computing company, including us. However, achieving quantum advantage would not necessarily lead to commercial viability of the technology that accomplished such advantage, nor would it mean that such system could outperform classical computers in tasks other than the one used to determine a quantum advantage. Other companies, including some of our customers, are working on classical approaches that target similar use cases, increasing competition and risk of not capturing market share. As quantum computing technology continues to mature, broad quantum advantage may take decades to be realized, if ever. If we cannot develop quantum computers that have quantum advantage, customers may not continue to purchase our products and services. If customers decide to wait until broad quantum advantage is reached, this could impair the growth of our business. If other companies’ quantum computers reach a broad quantum advantage prior to the time ours reaches such capabilities, it could lead to a loss of customers. If any of these events occur, it could have a material adverse effect on our business, financial condition or results of operations. This is also true for our quantum-hybrid solvers in that they must also continue to deliver value compared to classical approaches.

We use quantum-classical hybrid solutions to get the customer the optimal answer to their particular problem. Since quantum computing is a new form of computing, some customers may want to understand the details of how our products operate. However, because this is proprietary and trade secret information we cannot or may not want to share, we may lose customers as a result.

Real or perceived errors, failures or bugs in our products and services could materially and adversely affect our operating results, financial condition and growth prospects.

The hardware and software underlying our platform and products is highly technical and complex. Our hardware and software have previously contained, and may now or in the future contain, undetected errors, bugs or vulnerabilities. In addition, errors, failures and bugs may be contained in our software utilized in building and operating our products or may result from errors in the deployment or configuration of QCaaS software. Some errors in our products may only be discovered after a product has been deployed or may never be generally known. In some instances, despite internal testing, we may not be able to identify the cause or causes of these problems or risks within an acceptable period of time. Any errors, bugs or vulnerabilities discovered in our products after it has been deployed, or never generally discovered, could result in interruptions in platform availability, product malfunctioning or data breaches. Since our customers may use our services for processes that are critical to their businesses, errors, and defects, security vulnerability, service interruptions or software bugs in our platform could result in losses to our customers and thereby result in damage to our reputation, adverse effects upon customers and users, loss of customers and relationships with third parties, significant expenditures of capital, a delay or loss in market acceptance, loss of revenue or liability for damages. In addition, provisions typically included in our agreements with our customers that attempt to limit our exposure to claims may not be enforceable or adequate and may not otherwise protect us from liabilities or damages with respect to any particular claim. Even if not successful, a claim brought against us by any of our customers would likely be time-consuming and costly to defend and could seriously damage our reputation and brand, making it harder for us to sell our solutions and retain our customers.

If we cannot successfully execute on our strategy, including changing customer needs and new technologies and other market requirements, or achieve our objectives in a timely manner, our business, financial condition and results of operations could be harmed.

The quantum computing market is characterized by rapid technological change, changing user requirements, uncertain product lifecycles and evolving industry standards. We believe that the pace of innovation will continue to accelerate as technology changes and different approaches to quantum computing mature on a broad range of factors, including system architecture, error correction, performance and scale, ease of programming, user experience, markets addressed, types of data processed, and data governance and regulatory compliance. Our future success depends on our ability to continue to innovate and increase customer adoption of our products and services. If we are unable to enhance our products and services to keep pace with these rapidly evolving customer requirements, or if new technologies emerge that are able to deliver competitive products at lower prices, more efficiently, with better functionality, more conveniently, or more securely than our platform, our business, financial condition and results of operations could be adversely affected.

A key application of our technology is for optimization problems which, while a very broad market, requires continued research and development in order for our products and services to fully address the optimization market, and if that research and development is not successful this may limit its adoption to a narrow range of customers. If we cannot successfully attract a broader range of customers to our quantum annealing technology, our business will be negatively impacted and could fail.

In addition, our planned quantum gate system, which is a strategic milestone for our technical roadmap and commercialization, is not yet available for customers and may not become available on the timelines we expect or at all.

Even if we are successful in executing on our product roadmap and strategy and delivering increasingly more powerful quantum computing systems and services, competitors in the industry may achieve technological breakthroughs which render our products and services obsolete or inferior to other products and services.

Our continued growth and success depend on our ability to innovate and develop quantum computing technology in a timely manner and effectively market these products. Without timely innovation and development, our quantum computing solutions could be rendered obsolete or less competitive by changing customer preferences or because of the introduction of a competitor's more advanced technologies. Any technological breakthroughs which render our technology obsolete or inferior to other products could have a material effect on our business, financial condition or results of operations.

Any cybersecurity-related attack, significant data breach or disruption of the information technology systems, infrastructure, network, third-party processors or platforms on which we rely could damage our reputation and adversely affect our business and financial results.

Our operations rely on information technology systems for the use, storage and transmission of sensitive and confidential information with respect to our customers, our customers' customers, our employees and other third parties. A malicious cybersecurity-related attack, intrusion or disruption by either an internal or external source or other breach of the systems on which our platform and products operate, and on which our employees conduct business, could lead to unauthorized access to, use of, loss of or unauthorized disclosure of sensitive and confidential information, disruption of our services, viruses, worms, spyware, or other malware being served from our platform, networks, or systems; and resulting regulatory enforcement actions, litigation, indemnity obligations and other possible liabilities, as well as negative publicity, which could damage our reputation, impair sales and harm our business. Cyberattacks and other malicious internet-based activity continue to increase, and cloud-based platform providers of products and services have been and are expected to continue to be targeted. In addition to traditional computer "hackers," malicious code (such as viruses and worms), phishing, employee theft or misuse and denial-of-service attacks, sophisticated nation-state and nation-state supported actors now engage in attacks (including advanced persistent threat intrusions). Cyberattacks may also gain publishing access to our customers' accounts on our platform, using that access to publish content without authorization. Despite efforts to create security barriers to such threats, it is not feasible, as a practical matter, for us to entirely mitigate these risks. If our security measures are compromised as a result of third-party action, employee, customer, or user error, malfeasance, stolen or fraudulently obtained log-in credentials or otherwise, our reputation would be damaged, our data, information or intellectual property, or those of our customers and our customers' consumers, may be destroyed, stolen or otherwise compromised, our business may be harmed and we could incur significant liability. We have not always been able in the past, and may be unable in the future to anticipate or prevent techniques used to obtain unauthorized access to or compromise of our systems because they change frequently and are generally not detected until after an incident has occurred. We also cannot be certain that we will be able to prevent vulnerabilities in our software or address vulnerabilities that we may become aware of in the future.

In addition, there may be an increased risk of cyberattacks by state actors due to the current conflict between Russia and Ukraine, and the Israel-Hamas war. Any increase in such attacks on us or our systems could adversely affect our platform, networks, systems or other operations. Although we maintain cybersecurity policies and procedures to manage risk to our information technology systems, continuously adapt our systems and processes to mitigate such threats, and plan to enhance our protections against such attacks, we may not be able to address these cybersecurity threats proactively or implement adequate preventative measures and we may be unable to promptly detect and address any such disruption or security breach, if at all.

Further, as we rely on third-party cloud infrastructure, we depend in part on third-party security measures to protect against unauthorized access, cyberattacks and the mishandling of data and information. If these third parties fail to adhere to adequate data security procedures, or in the event of a breach of their networks, our own, our customers' and our customers' consumers' data may be improperly accessed, used or disclosed. Any cybersecurity event, including any vulnerability in our software, cyberattack, intrusion or disruption or any failure or breach unrelated to our own action or inaction, could result in significant increases in costs, including costs for remediating the effects of such an event; lost revenue due to network downtime, a decrease in customer and user trust; increases in insurance premiums due to cybersecurity incidents; increased exposure to a risk of litigation and possible liability; increased costs to address cybersecurity issues and attempts to prevent future incidents; and harm to our business, financial results and our reputation because of any such incident.

We include limitation of liability provisions in our standard subscription agreements; however, such provisions may not be enforceable or adequate and may not otherwise protect us from any such liabilities or damages with respect to any claim related to a cybersecurity incident or other potential claim referred to above. In addition, our existing general liability insurance coverage and coverage for cyber liability or errors or omissions may not continue to be available on acceptable terms or may not be available in sufficient amounts to cover one or more large claims and our insurer may deny coverage with respect to future claims. The successful assertion of one or more large claims against us that exceed available insurance coverage, or the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, would harm our business.

Many governments have enacted laws requiring companies to provide notice of data security incidents involving certain types of personal data. In addition, some of our customers require us to notify them of data security breaches. Security compromises experienced by our competitors, by our customers or by us may lead to public disclosures, which may lead to widespread negative publicity. Any security compromise in our industry, whether actual or perceived, could harm our reputation, erode confidence in the effectiveness of our security measures, negatively affect our ability to attract new customers, encourage consumers to restrict use of our platform, cause existing customers to elect not to renew their subscriptions or subject us to third-party lawsuits, regulatory fines or other action or liability, which could harm our business.

Market adoption of cloud-based online quantum computing platform solutions is relatively new and unproven and may not grow as we expect and, even if market demand increases, the demand for our QCaaS may not increase, or certain customers may be reluctant to use a cloud-based QCaaS for applications, all of which may harm our business and results of operations.

We derive substantially all of our revenue from our cloud-based quantum computing platform and professional services, which we expect to continue for the foreseeable future. As such, the market acceptance of our platform is critical to our continued success. It is difficult to predict customer adoption rates and demand for our solutions and professional services, the entry of competitive platforms and service providers, or the future growth rate and size of our markets.

In addition, in order for cloud-based solutions to be widely accepted, organizations must overcome any concerns with moving sensitive information to a cloud-based platform. In addition, demand for our platform in particular is affected by a number of other factors, some of which are beyond our control. These factors include continued market acceptance of our cloud-based quantum computing platform and cloud-based QCaaS, the pace at which existing customers realize benefits from the use of our platform and decide to expand deployment of our platform across their business, the timing of development and release of new products by our competitors, technological change, reliability and security, the pace at which enterprises undergo digital transformation, and developments in data privacy regulations. In addition, we expect that the needs of our customers will continue to rapidly change and increase in complexity. We will need to improve the functionality and performance of our platform continually to meet those rapidly changing, complex demands. If we are unable to continue to meet customer demands or to achieve more widespread market acceptance of relevant solutions in general or our platform in particular, our business operations, financial results, and growth prospects will be materially and adversely affected.

Government actions and regulations, such as tariffs and trade protection measures, may limit our ability to provide products and services to our customers and obtain products from our suppliers, which could have a material adverse impact on our business operations, financial results and growth plans.

We currently offer our platform in 39 countries and our international sales are a substantial and critical part of our current business and future growth plans. Our international sales and the use of our platform in various countries subject us to risks that we do not generally face with respect to domestic sales within North America. For example, we may face additional risks relating to:

- lack of familiarity and burdens and complexity involved with complying with multiple, conflicting and changing foreign laws, standards, regulatory requirements, tariffs, export controls and other barriers;
- difficulties in ensuring compliance with countries' multiple, conflicting and changing privacy, data security, international trade, customs and sanctions laws;
- differing technology standards; and
- new and uncertain protection for intellectual property rights in some countries.

We may be unsuccessful in navigating such risks, which could have a material adverse impact on our business operations, financial results and growth plans.

If we engage in acquisitions, divestitures, strategic investments or strategic partnerships and fail to achieve favorable results, our business, financial condition and operating results could be harmed.

We may in the future make acquisitions, divestitures or certain investments. Any transactions that we enter into could be material to our financial condition and results of operations. The process of acquiring and integrating another company or technology could create unforeseen operating difficulties and expenditures. Acquisitions and investments involve a number of risks, such as:

- use of resources that are needed in other areas of our business;

- in the case of an acquisition, implementation or remediation of controls, procedures and policies of the acquired company;
- in the case of an acquisition, difficulty integrating the accounting systems and operations of the acquired company, including potential risks to our corporate culture;
- in the case of an acquisition, coordination of product, engineering and selling and marketing functions, including difficulties and additional expenses associated with supporting legacy services and products and hosting infrastructure of the acquired company, as applicable, difficulties associated with supporting new products or services, difficulty converting the customers of the acquired company onto our platform and difficulties associated with contract terms, including disparities in the revenues, licensing, support or professional services model of the acquired company;
- in the case of an acquisition, retention and integration of employees from the acquired company;
- in the case of an acquisition, past intellectual property infringement or data security issues arising from the acquired company;
- unforeseen costs or liabilities;
- adverse effects on our existing business relationships with customers as a result of the acquisition or investment;
- the possibility of adverse tax consequences;
- litigation or other claims arising in connection with the acquired company or investment; and
- in the case of foreign acquisitions, the need to integrate operations across different cultures and languages and to address the particular economic, currency, political and regulatory risks associated with specific countries.

In addition, a significant portion of the purchase price of companies we acquire may be allocated to acquired goodwill and other intangible assets, which must be assessed for impairment at least annually. In the future, if our acquisitions do not yield expected returns, we may be required to take charges to our operating results based on this impairment assessment process, which could adversely affect our results of operations. Acquisitions and investments may also result in dilutive issuances of equity securities, which could adversely affect our share price, or result in issuances of securities with superior rights and preferences to our common shares or the incurrence of debt with restrictive covenants that limit our future uses of capital in pursuit of business opportunities.

We may not be able to identify acquisition or investment opportunities that meet our strategic objectives, or to the extent such opportunities are identified, we may not be able to negotiate terms with respect to the acquisition or investment that are acceptable to us. At this time, we have made no commitments or agreements with respect to any such material transactions.

We may in the future be adversely affected by future global public health crises such as epidemics or pandemics.

Public health crises such as epidemics or pandemics could materially and adversely impact our business.

An epidemic or pandemic (such as COVID-19) may cause prolonged global, national, or regional recessionary economic conditions or longer lasting effects on economic conditions than currently exist, which could have a material adverse effect on our business, results of operations and financial condition.

As a result, the demand for our products and services may be significantly impacted, which could adversely affect our revenue and results of operations. Our business operations may also be disrupted if significant portions of our workforce are unable to work effectively, including because of illness, quarantines, government actions, or other restrictions in connection with the pandemic. The extent to which an epidemic or pandemic impacts our business, results of operations, and financial conditions, will depend on factors which are highly uncertain and cannot be predicted, including the scope and duration of an epidemic or pandemic and actions taken by governmental authorities and other third parties in response to the epidemic or pandemic.

System failures, interruptions, delays in service, catastrophic events, inadequate infrastructure and resulting interruptions in the availability or functionality of our products and services could harm our reputation or subject us to significant liability, and adversely affect our business, financial condition and operating results.

Our brand, reputation and ability to attract, retain and serve our customers are also dependent upon the reliable performance of our platform, including our underlying technical infrastructure. Our systems and those of our third-party data center facilities may experience service interruptions, human error, earthquakes, hurricanes, floods, fires, natural disasters, power losses, disruptions in telecommunications services, fraud, military or political conflicts, terrorist attacks and other geopolitical unrest, computer viruses, or other events. Our systems are also subject to break-ins, sabotage, and acts of vandalism. Our platform and technical infrastructure may not be adequately designed with sufficient reliability and redundancy and our disaster recovery planning, which includes using geographically distinct and multi-region data centers, may not be sufficient to avoid performance delays or outages that could be harmful to the businesses of our customers and our business. Our disaster recovery plan stores some of our electronic data to a cloud back up system center in the event of a catastrophe, but such program may not be sufficient to recover all information or for all eventualities.

We have in the past experienced and may in the future experience service interruptions which disrupt the availability or reduce the speed or functionality of our platform. These events have resulted and likely will result in loss of revenue and could result in significant expense to remedy resultant data loss or corruption and/or recover from the interruption. A prolonged interruption in the availability or reduction in the speed or other functionality of our platform could materially harm our reputation and business. Frequent or persistent interruptions in access to functionality of our platform could cause our customers to believe that our platform is unreliable. If our platform is unavailable when our customers attempt to access it, or if it does not perform to expected levels, our customers may cease to use our platform entirely. Moreover, to the extent that any system failure or similar event results in damages to customers or their businesses, these customers could seek compensation from us for their losses, and those claims, even if unsuccessful, would likely be time-consuming and costly to address. While we have implemented measures intended to prevent or mitigate such interruptions, such measures may not be successful in preventing service interruptions in the future.

Unfavorable conditions in our industry or the global economy, including uncertain geopolitical conditions such as inflation, recessions and war, among others, could limit our ability to grow our business and negatively affect our results of operations.

Our results of operations may vary based on the impact of changes in our industry or the global economy on us or our customers and potential customers. Negative conditions in the general economy in Canada, the U.S. and foreign jurisdictions, including conditions resulting from changes in gross domestic product growth, financial and credit market fluctuations, inflation, tightening of the credit markets, including as a result of bank failures and any resulting issues in the broader U.S. financial system, any higher interest rates, recessions, international trade relations, pandemics (such as the COVID-19 pandemic), political turmoil, uncertain geopolitical conditions, natural catastrophes, warfare, and terrorist attacks could negatively impact our business, financial condition, results of operation, and liquidity or cause a decrease in business investments, including the progress on development of quantum technologies, and negatively affect the growth of our business. Similarly, geopolitical tensions in and around Ukraine, Israel and other areas of the world have created extreme volatility in the global capital markets and are expected to have further global economic consequences, including disruptions of the global supply chain and energy markets, and further acts of war, terror, or responses to each could result in similar or increased impacts on the global economy. In addition, in challenging economic times, our current or potential future customers may experience cash flow problems and as a result may modify, delay or cancel plans to purchase our products and services. Many of our customers invest in quantum computing products and services as part of their medium to longer-term strategies to optimize aspects of their business, and significant global disruptions such as the COVID-19 pandemic or geopolitical conflicts may result in potential customers focusing on short-term challenges, resulting in a reduction in their investments in quantum computing. Additionally, if our customers are not successful in generating sufficient revenue or are unable to secure financing, they may not be able to pay, or may delay payment of, accounts receivable due to us. Moreover, our key suppliers may reduce their output or become insolvent, thereby adversely impacting our ability to manufacture our products. Furthermore, uncertain economic conditions may make it more difficult for us to raise funds through borrowings or private or public sales of debt or equity securities. We cannot predict the timing, strength or duration of any economic slowdown, instability or recovery, generally or within any particular industry.

Our operations, business, customers and partners could be adversely affected by climate change.

There are increasing and rapidly evolving concerns over the risks of climate change and related environmental sustainability matters. Our operations, business, customers and partners could be adversely affected by climate change. The physical risks of climate change include rising average global temperatures, rising sea levels and an increase in the frequency and severity of extreme weather events and natural disasters. Such events and disasters could disrupt our operations or the operations of customers or third parties on which we rely and could result in market volatility. Additionally, we may face risks related to the transition to a low-carbon economy. We could experience increased expenses resulting from strategic planning, litigation and changes to our technology, operations, products and services, access to energy and water, as well as reputational harm as a result of negative public sentiment, regulatory scrutiny and reduced stakeholder confidence, due to our response to climate change or real or perceived vulnerability to climate change-related risks. Changes in consumer preferences, travel patterns and legal requirements could increase expenses or otherwise adversely impact our business, customers and partners.

Rising inflation may result in increased costs of operations and negatively impact the credit and securities markets generally and rising interest rates may result in increased costs of capital for us, each of which could have a material adverse effect on our results of operations and the market price of the Common Shares.

Inflation has accelerated in the U.S., Canada and globally due in part to global supply chain issues, the Ukraine-Russia war, the Israel-Hamas war, a rise in energy prices, and strong consumer demand as economies continue to reopen from restrictions related to the COVID-19 pandemic. An inflationary environment can increase our cost of labor, as well as our other operating costs, which may have a material adverse impact on our financial results. In addition, economic conditions could impact and reduce the number of customers who purchase our products or services as credit becomes more expensive or unavailable. Although interest rates have increased and are expected to increase further, inflation may continue. Further, increased interest rates could have a negative effect on the securities markets generally and increase the cost of capital to us, in particular, which may, in turn, have a material adverse effect on the market price of the Common Shares.

If we fail to offer high-quality customer support, or if the cost of such support is not consistent with corresponding levels of revenue, our business, results of operations and reputation may be harmed.

Due to our innovative technology and our planned technical roadmap, our customers will require particular support and service functions, some of which are not currently available, and may never be available. If we experience delays in adding such support capacity or servicing our customers efficiently, or experience unforeseen issues with the reliability of our technology, it could overburden our servicing and support capabilities. Similarly, increasing the number of our products and services would require us to rapidly increase the availability of these services. Failure to adequately support and service our customers may inhibit our growth and ability to expand.

Our current customers rely on our customer support organization to respond to inquiries and resolve issues related to their use of our platform quickly and effectively. Our customer support relies on third-party technology platforms, which may become unavailable or otherwise prevent our customers and customer support team from interacting on a timely basis. Our response times to customers and prospects may be impacted for reasons outside our control, such as changes to software and computing services, which may interrupt aspects of our service to our customers. From time to time, we experience spikes in the number of customer support tickets that we receive, which may result in an increase in customer requests and significant delays in responding to our customers' requests. Customer demand for support may also increase as we expand and enhance our operations and product offerings. Increased customer demand for our support services, without corresponding revenue increases, could increase our costs and harm our operating results. As we continue to grow our operations and support our global user base, we need to continue to provide efficient and high-quality support that meets our customers' needs globally at scale. Our sales process is highly dependent on the ease of use of our platform and products, our business reputation and positive recommendations from our existing customers. Any failure to maintain a high-quality customer support organization, or a market perception that we do not maintain such levels of support, could harm our reputation, our ability to sell to existing and prospective customers and our business, results of operation and financial condition.

Risks Related to Litigation and Government Regulation

Changing Canadian and U.S. federal, state, provincial and foreign laws and regulations related to privacy, information security and data protection could adversely affect how we collect and use personal information and harm our brand.

We may receive, store and otherwise process personal information and other data from and about our customers, employees and from other stakeholders, like our vendors. There are numerous federal, provincial, local and international laws and regulations regarding privacy, data protection, information security and the storing, sharing, use, processing, transfer, disclosure, retention and protection of personal information and other content, the scope of which is rapidly changing, subject to differing interpretations and may be inconsistent among regions, countries and states, or conflict with other legal requirements. We are also subject to contractual obligations from our customers and other third parties related to privacy, data protection and information security, and disclosures and commitments made in our privacy policies. We strive to comply with applicable laws, regulations, policies and other legal obligations relating to privacy, data protection and information security. However, the regulatory framework for privacy, data protection and information security worldwide is, and is likely to remain, uncertain for the foreseeable future, and it is possible that these or other actual or alleged obligations may be interpreted and applied in a manner that is inconsistent from one jurisdiction to another and may conflict with other rules or our practices.

We also expect that there will continue to be new laws, regulations and industry standards concerning privacy, data protection and information security proposed and enacted in various jurisdictions. The United States, Canada, the European Union, the United Kingdom and other jurisdictions in which we operate are increasingly adopting or revising privacy, information security and data protection laws and regulations that could have a significant impact on our current and planned privacy, data protection and information security-related practices, our collection, use, sharing, retention and safeguarding of customer, consumer and/or employee information, as well as any other third-party information we receive, and some of our current or planned business activities. New and changing laws, regulations, and industry standards concerning privacy, data protection and information security may also impact the computing services and software industry platforms and data providers we utilize, and thereby indirectly impact our business. In the United States, this includes the CCPA which came into effect on January 1, 2020. In the European Union and the United Kingdom, this includes the GDPR which came into effect in May 2018. In Canada, this includes Canada's PIPEDA and the *Personal Information Protection Act* in British Columbia. While we have taken measures to comply with applicable requirements contained in the GDPR, we may need to continue to make adjustments as more clarification and guidance on the requirements of the GDPR and how to comply with such requirements becomes available. Further, Brexit has created uncertainty with regard to the regulation of data protection in the United Kingdom, including how the United Kingdom version of the GDPR will be implemented alongside its existing United Kingdom data protection regulations and how data transfers to and from the United Kingdom will generally be regulated.

Uncertainty in the laws and regulations affecting cross border transfers of personal data may affect the demand and functionality of our services. In the past, we have relied on a variety of adequacy mechanisms, including the European Commission Decision 2002/2/EC regarding the adequacy of Canadian law, Standard Contractual Clauses, and Binding Corporate Rules, to enable us to provide our services around the globe at scale. Different European data protection regulators may impose additional requirements or apply differing standards for the transfer of personal data or even prohibit data transfers to certain non-European Union countries, like the United States and Canada. Such standards may be particularly targeted at the software companies with whom we work. This creates significant additional uncertainty regarding our ability to lawfully transfer certain personal data from the European Union and we may need to implement substantial changes to our information technology infrastructure as a result, which could take time and be costly. In addition, the CCPA affords consumers expanded privacy protections and control over the collection, use and sharing of their personal information. The potential effects of this legislation are far-reaching and may require us to modify our data processing practices and policies and to incur substantial costs and expenses in an effort to comply. For example, the CCPA gives California residents expanded rights to access and require deletion of their personal information, opt out of certain personal information sharing and receive detailed information about how their personal information is used. The California State Attorney General began enforcing the CCPA on July 1, 2020; to the extent that we have not fully implemented the data processing practices and policies necessary to comply with the CCPA, the Attorney General may serve us with an enforcement notice under the CCPA and impose civil penalties for violations. The CCPA also provides for a private right of action for data breaches that may increase data breach litigation.

With laws and regulations such as the CCPA in the United States, the PIPEDA in Canada, and GDPR in the European Union imposing new and relatively burdensome obligations, and with substantial uncertainty over the interpretation and application of these and other laws and regulations, we may face challenges in addressing their requirements and making necessary changes to our policies and practices and may incur significant costs and expenses in an effort to do so. For example, the increased consumer control over the sharing of their personal information afforded by CCPA may affect our customers' ability to share such personal information with us or may require us to delete or remove consumer information from our records or data sets, which may create considerable costs for our organization. In addition, any failure or perceived failure by us to comply with our privacy policies, our privacy, data protection- or information security-related obligations to customers, users or other third parties or any of our other legal obligations relating to privacy, data protection or information security may result in governmental investigations or enforcement actions, litigation, claims or public statements against us by consumer advocacy groups or others, and could result in significant liability, loss of relationships with key third parties, or cause our users to lose trust in us, which could have an adverse effect on our reputation and business. Furthermore, the costs of compliance with, and other burdens imposed by, the laws, regulations and policies that are applicable to the businesses of our users may limit the adoption and use of, and reduce the overall demand for, our platform.

Additionally, if the third parties we work with, such as vendors or developers, violate applicable laws or regulations or our policies, such violations may also put our customers' and their users at risk and could in turn have an adverse effect on our business. Any significant change to applicable laws, regulations or industry practices regarding the collection, use, retention, security or disclosure of such content, or regarding the manner in which the express or implied consent of such persons for the collection, use, retention or disclosure of such content is obtained, could increase our costs and require us to modify our services and features, possibly in a material manner, which we may be unable to complete and may limit our ability to store and process user data or develop new services and features. All of these implications could adversely affect our revenue, results of operations, business and financial condition.

We are subject to United States, Canadian and foreign anti-corruption, anti-bribery and similar laws, and non-compliance with such laws may subject us to criminal or civil liability and harm our business.

We are subject to a variety of laws and regulations in the United States, Canada and foreign jurisdictions related to anti-corruption, anti-bribery and similar laws, including governing cross-border and domestic money transmission, gift cards and other prepaid access instruments, electronic fund transfers, taxation reporting requirements, foreign exchange, privacy and data protection, banking and import and export restrictions. We are also subject to various anti-corruption and anti-money laundering laws, including the *Foreign Corrupt Practices Act* (U.S.), the United States domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA Patriot Act, the U.K. Bribery Act 2010 and Proceeds of Crime Act 2002, the *Proceeds of Crime (Money Laundering) and Terrorist Financing Act (Canada)* and its regulations, and other anti-bribery and anti-money laundering laws in countries in which we conduct activities. Concerns about the use of payment processing platforms for illegal conduct, such as money laundering or to support terrorist activities, may result in legislation or other governmental action that could require changes to our platform. In addition, depending on how our customer base evolves, and as we expand into new geographies, we expect to become subject to additional laws in the United States, Canada, Europe and elsewhere. Any non-compliance with such laws may subject us to criminal or civil liability and harm our business.

We are subject to export and import controls and economic sanctions laws that could impair our ability to offer our products or make our platform available in some jurisdictions, or subject us to liability if we are not in compliance with applicable laws.

As a result of our international operations, we are subject to a number of United States, Canadian and foreign laws relating to economic sanctions and to export and import controls which presently limit and could further limit our ability to offer our platform in certain jurisdictions or to certain customers. In addition, the export of our software in certain jurisdictions may require governmental authorizations. Various jurisdictions also regulate the import of certain technology, including imposing import permitting and licensing requirements, and have enacted laws that could limit our ability to offer our platform in those countries. Complying with export or import controls and economic sanctions may be time-consuming and result in the delay or loss of business opportunities.

Any change in export or import controls, economic sanctions or related legislation, or change in the countries, governments, persons, or technologies targeted by such restrictions or legislation, could result in decreased use of our platform by customers or in our decreased ability to offer our platform internationally, which would harm our business, operating results and financial condition. Furthermore, failure to comply with export or import controls or with economic sanctions may expose us to government investigations and penalties, which could harm our business, operating results and financial condition.

Governmental decisions with respect to perceived national security risks associated with quantum computing technology could impede the selling of our products and services.

Political challenges between the United States and countries in which our suppliers are located, including China, and changes to trade policies, including tariff rates and customs duties, trade relations between the United States and China and other macroeconomic issues could adversely impact our business. Specifically, United States-China trade relations remain uncertain and quantum computing has been designated as a technology with national security implications in many countries, including the United States and Canada. The United States administration has announced tariffs on certain products imported into the United States with China as the country of origin, and China has imposed tariffs in response to the actions of the United States. There is also a possibility of future tariffs, trade protection measures or other restrictions imposed on our products or on our customers by the United States, China or other countries that could have a material adverse effect on our business. To the extent our technology is deemed a matter of national security, our business could be subject to increased restrictions or regulations, our customer and supplier base may be restricted, our TAM may be reduced and our business, operating results and financial condition could be harmed.

We are subject to requirements relating to environmental and safety regulations which could adversely affect our business, results of operation and reputation.

We are subject to numerous federal, state and local environmental laws and regulations governing, among other things, solid and hazardous waste storage, treatment and disposal, and remediation of releases of hazardous materials. There are significant capital, operating and other costs associated with compliance with these environmental laws and regulations. Environmental laws and regulations may become more stringent in the future, which could increase costs of compliance or require us to manufacture with alternative technologies and materials.

Federal, state and local authorities also regulate a variety of matters, including, but not limited to, health, safety and permitting in addition to the environmental matters discussed above. New legislation and regulations may require us to make material changes to our operations, resulting in significant increases to the cost of production.

Our hardware has operational hazards such as but not limited to hazardous operating temperatures and high voltage and/or high current electrical systems typical of large computer processing equipment and related safety incidents.

There may be environmental or safety incidents that damage machinery or product, slow or stop production, or harm employees or third parties. Consequences may include litigation, regulation, fines, increased insurance premiums, mandates to temporarily halt production, workers' compensation claims, or other actions that impact our brand, finances, or ability to operate.

Future investments in D-Wave Quantum Common Shares may be subject to U.S. foreign investment regulations.

Investments that involve the acquisition of, or investment in, a U.S. business by a non-U.S. investor may be subject to U.S. laws that regulate foreign investments in U.S. businesses and access by foreign persons to technology developed and produced in the United States. These laws include Section 721 of the Defense Production Act of 1950, as amended by the Foreign Investment Risk Review Modernization Act of 2018, and the regulations at 31 C.F.R. Parts 800 and 802, as amended, administered by the Committee on Foreign Investment in the United States (“CFIUS”).

Whether CFIUS has jurisdiction to review an acquisition or investment transaction depends on, among other factors, the nature and structure of the transaction, including the level of beneficial ownership interest and the nature of any information or governance rights involved. For example, investments that result in “control” of a “U.S. business” by a “foreign person” (in each case, as such terms are defined in 31 C.F.R. Part 800) always are subject to CFIUS jurisdiction. Significant CFIUS reform legislation, which was fully implemented through regulations that became effective in 2020, expanded the scope of CFIUS’s jurisdiction to investments that do not result in control of a U.S. business by a foreign person, but afford certain foreign investors certain information or governance rights in a U.S. business that has a nexus to “critical technologies,” “covered investment critical infrastructure,” and/or “sensitive personal data” (in each case, as such terms are defined in 31 C.F.R. Part 800).

The Transaction has resulted in investments in our U.S. subsidiary by non-U.S. persons that could be considered by CFIUS to result in a covered control transaction that CFIUS would have authority to review. PSP is a Canadian Crown corporation and, as of December 31, 2022, held approximately 52 percent of the issued and outstanding D-Wave Quantum Common Shares (including Exchangeable Shares). CFIUS or another U.S. governmental agency could choose to review past or proposed transactions involving new or existing foreign investors in D-Wave Quantum, even if a filing with CFIUS is or was not required at the time of such transaction.

Any review and approval of an investment or transaction by CFIUS may have outsized impacts on transaction certainty, timing, feasibility, and cost, among other things. CFIUS policies and agency practices are rapidly evolving, and, in the event that CFIUS reviews one or more proposed or existing investment by investors, there can be no assurances that such investors will be able to maintain, or proceed with, such investments on terms acceptable to the parties to the transaction or such investors. Among other things, CFIUS could seek to impose limitations or restrictions on, or prohibit, investments by such investors (including, but not limited to, limits on purchasing D-Wave Quantum Common Shares, limits on information sharing with such investors, requiring a voting trust, governance modifications, or forced divestiture, among other things), or CFIUS could require us to divest a portion of D-Wave Quantum.

Risks Related to D-Wave Quantum's Intellectual Property

We may be unable to obtain, maintain and protect our intellectual property rights and proprietary information or prevent third parties from making unauthorized use of our technology, which could cause it to lose its competitive advantage.

Our intellectual property is important to our business. We rely on a combination of confidentiality clauses, assignment agreements and license agreements with employees and third parties, patents, trade secrets, copyrights, and trademarks to protect our intellectual property and competitive advantage, all of which offer only limited protection. The steps we take to protect our intellectual property require significant resources and may be inadequate. We will not be able to protect our intellectual property if we are unable to enforce our rights or if we do not detect unauthorized use of our intellectual property. We may be required to use significant resources to obtain, monitor and protect our intellectual property. Despite our precautions, it may be possible for unauthorized third parties to copy our platform and our products and use information that we regard as proprietary to create products and services that compete with ours. Some license provisions protecting against unauthorized use, copying, transfer and disclosure of our proprietary information may be unenforceable under the laws of certain jurisdictions and foreign countries. In addition, we may not be able to acquire or maintain appropriate domain names in all countries in which we do business or prevent third parties from acquiring domain names that are similar to, infringe upon, or diminish the value of our trademarks, and other intellectual property. Furthermore, regulations governing domain names may not protect our trademarks or similar proprietary rights.

We enter into confidentiality and intellectual property agreements with our employees and consultants and enter into confidentiality agreements with the parties with whom we have strategic relationships and business alliances. These agreements may not be effective in securing ownership of our intellectual property or controlling access to our proprietary information and trade secrets. The confidentiality agreements on which we rely to protect certain technologies may be breached, may not be adequate to protect our confidential information, trade secrets and proprietary technologies and may not provide an adequate remedy in the event of unauthorized use or disclosure of our confidential information, trade secrets or proprietary technology. Further, these agreements do not prevent our competitors or others from independently developing technology that is substantially equivalent or superior to our technology. In addition, others may independently discover our trade secrets and confidential information, and in such cases, we likely would not be able to assert any trade secret rights against such parties. Additionally, we may from time to time be subject to opposition or similar proceedings with respect to applications for registrations of our intellectual property, including our trademarks. While we aim to acquire adequate protection of our brand through trademark registrations in key markets, occasionally third parties may have already registered or otherwise acquired rights to identical or similar marks for services that also address our market. We rely on our brand and trademarks to identify our platform and to differentiate our platform and services from those of our competitors, and if we are unable to adequately protect our trademarks third parties may use our brand names or trademarks similar to ours in a manner that may cause confusion in the market, which could decrease the value of our brand and adversely affect our business and competitive advantages.

Policing unauthorized use of our intellectual property and misappropriation of our technology and trade secrets is difficult and we may not always be aware of such unauthorized use or misappropriation. Despite our efforts to protect our intellectual property rights, unauthorized third parties may attempt to use, copy or otherwise obtain and market or distribute our intellectual property rights or technology or otherwise develop services with the same or similar functionality as our platform and products. If our competitors infringe, misappropriate or otherwise misuse our intellectual property rights and we are not adequately protected, or if our competitors are able to develop a platform or product with the same or similar functionality as ours without infringing our intellectual property, our competitive advantage and results of operations could be harmed. Litigation brought to protect and enforce our intellectual property rights could be costly, time consuming and distracting to management and could result in the impairment or loss of portions of our intellectual property. As a result, we may be aware of infringement by our competitors, but may choose not to bring litigation to enforce our intellectual property rights due to the cost, time and distraction of bringing such litigation. Furthermore, if we do decide to bring litigation, our efforts to enforce our intellectual property rights may be met with defenses, counterclaims and countersuits challenging or opposing our right to use and otherwise exploit particular intellectual property, services and technology or the enforceability of our intellectual property rights. Our inability to protect our proprietary technology against unauthorized copying or use, as well as any costly litigation or diversion of our management's attention and resources, could delay further sales or the implementation of our solutions, impair the functionality of our platform, prevent or delay introductions of new or enhanced solutions, result in our substituting inferior or more costly technologies into our platform or injure our reputation. Furthermore, many of our current and potential competitors have the ability to dedicate substantially greater resources to developing and protecting their technology or intellectual property rights than we do.

Our patent applications may not result in issued patents or our patent rights may be contested, circumvented, invalidated or limited in scope, any of which could have a material adverse effect on our ability to prevent others from interfering with the commercialization of our products.

Our patent applications may not result in issued patents, which may have a material adverse effect on our ability to prevent others from commercially exploiting products similar to ours. The status of patents involves complex legal and factual questions and the breadth of claims allowed is uncertain. As a result, we cannot be certain that any patent applications we have or will file will result in patents being issued, or that our patents and any patents that may be issued to us will afford protection against competitors with similar technology. Numerous patents and pending patent applications owned by others exist in the fields in which we have developed and are developing our technology. In addition to those who may have patents or patent applications directed to relevant technology with an effective filing date earlier than any of our existing patents or pending patent applications, any of our existing or pending patents may also be challenged by others on the basis that they are otherwise invalid or unenforceable. Furthermore, patent applications filed in foreign countries are subject to laws, rules and procedures that differ from those of the United States, and thus we cannot be certain that foreign patent applications related to issued United States patents will be issued.

Even if our patent applications succeed and we are issued patents in accordance with them, it is still uncertain whether these patents will be contested, circumvented, invalidated or limited in scope in the future. The rights granted under any issued patents may not provide us with meaningful protection or competitive advantages, and some foreign countries provide significantly less effective patent enforcement than in the United States. In addition, the claims under any patents that issue from our patent applications may not be broad enough to prevent others from developing technologies that are similar or that achieve results similar to ours. The intellectual property rights of others could also bar us from licensing and exploiting any patents that issue from our pending applications. In addition, patents issued to us may be infringed upon or designed around by others and others may obtain patents that they need to license or design around, either of which would increase costs and may adversely affect our business, prospects, financial condition and operating results.

We may face patent infringement and other intellectual property claims that could be costly to defend, result in injunctions and significant damage awards or other costs. If third parties claim that we infringe upon or otherwise violate their intellectual property rights, our business could be adversely affected.

The computing and software industries are characterized by the existence of a large number of patents and frequent claims and related litigation regarding patents, copyright and other intellectual property rights. Third parties may assert that our platform, solutions, technology, methods or practices infringe, misappropriate or otherwise violate their intellectual property. We face the risk of claims that we have infringed upon or otherwise violated third parties' intellectual property rights. Our future success depends in part on not infringing upon or otherwise violating the intellectual property rights of others. From time to time, our competitors or other third parties may claim that we are infringing upon or otherwise violating their intellectual property rights, and we may be found to be infringing upon or otherwise violating such rights. We may be unaware of the intellectual property rights of others that may cover some or all of our technology or conflict with our trademark rights. Any claims of intellectual property infringement or other intellectual property violations, even those without merit, could:

- be expensive and time consuming to defend;
- cause us to cease making, licensing or using our platform or products that incorporate the challenged intellectual property;
- require us to modify, redesign, reengineer or rebrand our platform or products, if feasible;
- cause significant delays in introducing new or enhanced services or technology;
- divert management’s attention and resources; or
- require us to enter into royalty or licensing agreements in order to obtain the right to use a third party’s intellectual property.

Any royalty or licensing agreements, if required, may not be available to us on acceptable terms or at all. A successful claim of infringement against us could result in our being required to pay significant damages, enter into costly settlement agreements, or prevent us from offering our platform or products, any of which could have a negative impact on our operating profits and harm our future prospects. We may also be obligated to indemnify our customers or business partners in connection with any such litigation and to obtain licenses, modify our platform or products, or refund subscription fees, which could further exhaust our resources. Such disputes could also disrupt our platform or products, adversely affecting our customer satisfaction and ability to attract customers.

Some of our intellectual property has been conceived or developed pursuant to government-funding agreements which impose certain obligations on us. Compliance with such obligations may limit our ability to freely transfer our assets without incurring substantial additional repayment obligations.

Our government-funding agreements may contain certain restrictive covenants that either limit our ability to, or require a prepayment, in the event we incur additional indebtedness or liens, merge with other companies or consummate certain changes of control, acquire other companies, engage in new lines of business, add new offices or business locations, make certain investments, pay dividends, transfer or dispose of certain assets, liquidate or dissolve, amend certain material agreements and enter into various specified transactions. We, therefore, may not be able to engage in any of the foregoing transactions unless we obtain the consent required by these agreements. Furthermore, our future working capital, borrowings or equity financing could be unavailable to repay or refinance the amounts outstanding under any of these agreements.

In addition, we may also incur additional indebtedness in the future. The instruments governing such indebtedness could contain provisions that are as, or more, restrictive than those to which we are presently subject. Any such present or future restrictions may limit our ability to meet our business, financing or other goals which could have a material adverse effect on our business and results of operations.

Risks Related to Being a Public Company

Our management has limited experience operating a public company, and thus its success in such endeavors cannot be guaranteed.

Our executive officers have limited experience in the management of a publicly traded company. Our management team may not successfully or effectively manage D-Wave Quantum’s transition to a public company that is subject to significant regulatory oversight and reporting obligations under U.S. securities laws. Their limited experience in dealing with the increasingly complex laws pertaining to public companies could be a significant disadvantage in that it is likely that an increasing amount of their time may be devoted to these activities which will result in less time being devoted to the management and growth of the post-combination company. We may not have adequate personnel with the appropriate level of knowledge, experience and training in the accounting policies, practices or internal control over financial reporting required of public companies in the United States. This could impact our ability or prevent us from timely reporting our operating results, timely filing required reports with the SEC and complying with Section 404 of the Sarbanes-Oxley Act of 2002 (the “*Sarbanes-Oxley Act*”). The development and implementation of the standards and controls necessary for us to achieve the level of accounting standards required of a public company in the United States may require costs greater than expected. It is possible that we will be required to expand our employee base and hire additional employees to support our operations as a public company, which will increase our operating costs in future periods.

If we are unable for any reason to meet the continued listing requirements of the NYSE, such action or inaction could result in a delisting of our securities.

On October 20, 2023, we were notified by the NYSE that we are not in compliance with Section 802.01C of the NYSE Listed Company Manual because the average closing price of our Common Shares was less than \$1.00 over a consecutive 30 trading-day period. The notice had no immediate impact on the listing of our Common Shares, which will continue to be listed and traded on the NYSE during the period allowed to regain compliance, subject to our compliance with other listing standards. On October 24, 2023, we notified the NYSE that we intend to cure the stock price deficiency and to return to compliance with the NYSE continued listing standard. On March 1, 2024, the NYSE notified us that we had regained compliance based on a calculation of the Company's average closing share price for the 30 trading days ended February 29, 2024, which reflected an average closing share price above the NYSE's \$1.00 minimum requirement. This was the second time in 2023 that the Company was notified of its non-compliance with NYSE listing requirements due to the average closing price of its Common Shares falling below the \$1.00 threshold. While we were able to bring the Company back in compliance with the NYSE listing requirements within the six-month window for recompliance on both occasions, it is possible that this may occur again and we will not be able to bring the Company back in compliance within such window or at all.

If we cannot remain in compliance with the NYSE listing requirements, or cannot regain compliance after becoming non-compliant in the future, our Common Shares will be delisted from the NYSE. The delisting of our Common Shares from the NYSE will likely make it more difficult for us to raise capital on favorable terms in the future. Such a delisting would likely have a negative effect on the price of our securities and would impair your ability to sell or purchase our securities when you wish to do so. In the event of a delisting, actions taken by us to restore compliance with listing requirements may not allow our securities to become listed again, stabilize the market price or improve the liquidity of our securities, prevent such securities from dropping below any minimum bid price requirement or prevent future non-compliance with the NYSE listing requirements.

If securities or industry analysts do not publish research, or publish inaccurate or unfavorable research, about D-Wave Quantum's business, the price and trading volume of D-Wave Quantum's securities could decline.

The trading market for D-Wave Quantum's securities will be influenced by the research and reports that industry or securities analysts may publish about D-Wave Quantum, its business, market or competitors. Securities and industry analysts do not currently, and may never, publish research on D-Wave Quantum. If no securities or industry analysts commence coverage of D-Wave Quantum, D-Wave Quantum's share price and trading volume would likely be negatively impacted. If any of the analysts who may cover D-Wave Quantum change their recommendation regarding the Common Shares adversely, or provide more favorable relative recommendations about D-Wave Quantum's competitors, the price of the Common Shares would likely decline. If any analyst who may cover D-Wave Quantum were to cease coverage of D-Wave Quantum or fail to regularly publish reports on it, D-Wave Quantum could lose visibility in the financial markets, which in turn could cause its share price or trading volume to decline.

There is a risk that we will fail to maintain an effective system of internal controls and our ability to produce timely and accurate financial statements or comply with applicable regulations could be adversely affected. We may identify more material weaknesses, in addition to the material weakness identified below, in our internal controls over financing reporting which we may not be able to remedy in a timely manner.

As a public company, we operate in an increasingly demanding regulatory environment, which requires us to comply with the Sarbanes-Oxley Act, the regulations of the NYSE, the rules and regulations of the SEC, expanded disclosure requirements, accelerated reporting requirements and more complex accounting rules. Responsibilities required by the Sarbanes-Oxley Act include establishing corporate oversight and adequate internal control over financial reporting and disclosure controls and procedures. Effective internal controls are necessary for us to produce reliable financial reports and are important to help prevent financial fraud. Prior to the Transaction, we had never been required to test our internal controls within a specified period and, as a result, we may experience difficulty in meeting these reporting requirements in a timely manner.

The process of building our accounting and financial functions and infrastructure has, and will continue to, require significant additional professional fees, internal costs and management efforts. We may need to further enhance and/or implement a new internal system to combine and streamline the management of our financial, accounting, human resources and other functions. However, the enhancement and/or implementation of a system have and may continue to result in substantial costs. Any disruptions or difficulties in implementing or using such a system could adversely affect our controls and harm our business. Moreover, such disruption or difficulties could result in unanticipated costs and diversion of management's attention. In addition to the material weakness identified below, we may discover additional weaknesses in our system of internal financial and accounting controls and procedures that could result in a material misstatement of our financial statements. Our internal control over financial reporting will not prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud will be detected.

If we are not able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act in a timely manner, or if we are unable to maintain proper and effective internal controls, we may not be able to produce timely and accurate financial statements. If we cannot provide reliable financial reports or prevent fraud, our business and results of operations could be harmed, investors could lose confidence in our reported financial information and we could be subject to sanctions or investigations by the NYSE, the SEC or other regulatory authorities.

We have identified a material weakness in our internal control over financial reporting. If we fail to remedy this weakness or maintain an effective system of internal controls, then our ability to produce timely and accurate financial statements or comply with applicable regulations could be adversely affected. We may identify additional material weaknesses in our internal controls over financing reporting which we may not be able to remedy in a timely manner.

In connection with the preparation and audit of D-Wave's financial statements as of and for the fiscal year ended December 31, 2023 and 2022, material weaknesses were identified in our internal control over financial reporting. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. Specifically, a material weakness was identified in D-Wave design and operation of controls related to its financial statement close process: D-Wave lacks sufficient accounting and financial reporting personnel with requisite knowledge and experience in the application of complex areas of GAAP and SEC rules to facilitate accurate and timely financial reporting and to perform sufficient review over certain areas including non-routine revenue transactions, equity, government assistance, taxes, deferred revenue, accounts receivable, stock-based compensation, prepaid expenses, lease accounting, financial statement disclosures, and classification within the consolidated statements of cash flow.

This material weakness resulted in errors in the unaudited condensed consolidated financial statements for the quarterly and year to date periods ended September 30, 2023, June 30, 2023, and March 31 2023 and the consolidated financial statements for the years ended December 2022, 2021, and 2020. These periods were restated on Forms 10-Q/A and 10-K/A, as applicable, filed with the SEC on March 15, 2024. Separately, the unaudited condensed consolidated financial statements for the nine months ended September 30, 2022 were previously restated on Form 10-Q/A filed with the SEC on April 17, 2023 (collectively, the "Restatements"). Additionally, this material weakness could result in misstatements of the related accounts or disclosures that would result in a material misstatement to the annual or interim consolidated financial statements that would not be prevented or detected. We are implementing measures designed to improve our internal control over financial reporting to remediate this material weakness including adding additional qualified accounting personnel with experience with complex GAAP and SEC rules, engaging consultants to assist with the financial statement close process, and segregating duties among accounting personnel to enable adequate review controls. The primary costs associated with such measures are corresponding recruiting and additional salary and consulting costs, which are difficult to estimate at this time but which may be significant. These additional resources and procedures are intended to enable us to broaden the scope and quality of our internal review of underlying information related to financial reporting and to formalize and enhance our internal control procedures.

The material weakness will not be considered remediated until our remediation plan has been fully implemented, the applicable controls operate for a sufficient period of time, and we have concluded, through testing, that the newly implemented and enhanced controls are operating effectively. We are continuing to work on the implementation of our remediation plan, following which we will continue to test such controls over time. We cannot predict the success of such efforts or the outcome of its assessment of the remediation efforts. Our efforts may not remediate this material weakness in our internal control over financial reporting, or additional material weaknesses may be identified in the future. A failure to implement and maintain effective internal control over financial reporting could result in errors in our consolidated financial statements that could result in a restatement of our financial statements, and could cause us to fail to meet our reporting obligations, any of which could diminish investor confidence in us and cause a decline in the price of our common stock.

Our independent registered public accounting firm will not be required to formally attest to the effectiveness of our internal control over financial reporting until after we are no longer an “emerging growth company,” as defined in the JOBS Act. At such time, our independent registered public accounting firm may issue a report that is adverse in the event it is not satisfied with the level at which our internal control over financial reporting is documented, designed or operating.

We may face litigation and other risks as a result of the classification error and related material weakness in our internal control over financial reporting.

As a result of the classification error and related material weakness described in Part II, Item 9A. Controls and Procedures, we face the potential for litigation or other disputes which may include, among others, claims invoking the federal and state securities laws, and contractual or other claims arising from the restatement, material weakness, and the preparation of our financial statements.

As of the date of this Annual Report on Form 10-K, we have no knowledge of any such litigation or dispute arising due to the restatement or material weakness. However, we can provide no assurance that any litigation or dispute will not arise in the future. Any litigation or dispute, whether successful or not, could have a material adverse effect on our business, results of operations and financial condition.

The Company reached a determination to restate certain of its previously issued consolidated financial statements, which resulted in unanticipated costs and may affect investor confidence and raise reputational issues.

As described in the Company's recently filed amendment to its FY2022 Annual Report on Form 10-K/A, the Company reached a determination to restate its consolidated financial statements and related disclosures as of and for the Affected Periods attributable to the accounting treatment for certain government assistance arrangements with SIF and TPC that originated prior to 2021 in the form of conditionally repayable loans with below-market interest rates.

As a result, the Company has incurred unanticipated costs for accounting and legal fees in connection with the restatement and has become subject to a number of additional risks and uncertainties, which may affect investor confidence in the accuracy of the Company's financial disclosures and may raise reputational issues for the Company's business.

We will incur increased costs as a result of our operation as a public company, and our management will be required to devote substantial time and resources to employing new compliance initiatives in order to comply with the regulatory requirements applicable to public companies.

Following the completion of the Transaction, we became a public company and, as a result, we will incur significant legal, accounting and other expenses that we did not incur as a private company. As a public company, we are and will continue to be subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, as well as rules adopted, and to be adopted, by the SEC and the NYSE. Our management and other personnel have and will need to continue to devote a substantial amount of time to these compliance initiatives. Moreover, we expect these rules and regulations to substantially increase our legal and financial compliance costs and to make some activities more time-consuming and costly. For example, we expect these rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be forced to accept reduced policy limits or incur substantially higher costs to maintain the same or similar coverage. We cannot predict or estimate the amount or timing of additional costs we may incur to respond to these requirements. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

Risks Related to Ownership of the Common Shares

D-Wave will have broad discretion in the use of its cash, cash equivalents and investments, and it may invest or spend such amounts in ways with which you may not agree or in ways which may not yield a return.

D-Wave Quantum's management will have considerable discretion in the application of its cash, cash equivalents and investments, and its stockholders will not have the opportunity to approve how such funds are being used. If such funds are used for corporate purposes that do not result in an increase to the value of its business, D-Wave Quantum's stock price could decline. Pending their use, D-Wave Quantum may invest its cash, cash equivalents and investments in a manner that does not produce income or that loses value.

D-Wave may be required to take write-downs or write-offs, or D-Wave may be subject to restructuring, impairment or other charges that could have a significant negative effect on D-Wave's financial condition, results of operations and the price of D-Wave's securities, which could cause you to lose some or all of your investment.

Factors outside of D-Wave's control may, at any time, arise. As a result of these factors, D-Wave may be forced to write-down or write-off assets, restructure its operations, or incur impairment or other charges that could result in D-Wave reporting losses, as other companies that have recently consummated business combinations with special purpose acquisition companies have been required to do. Even if certain risks were identified in the past, unexpected risks may arise, and previously known risks may materialize in a manner not consistent with prior expectation. Even though these charges may be non-cash items and therefore not have an immediate impact on D-Wave's liquidity, the fact that D-Wave reports charges of this nature could contribute to negative market perceptions about D-Wave or its securities. In addition, charges of this nature may cause D-Wave to be unable to obtain future financing on favorable terms or at all.

D-Wave may be subject to securities litigation, which is expensive and could divert management attention.

The price of the Common Shares has been and may continue to be volatile. For example, the price per Common Share peaked at a high price of \$13.23 on August 10, 2022, shortly following the completion of the Transaction, and has since declined significantly. In the past, companies that have experienced volatility in the market price of their stock have been subject to securities litigation, including class action litigation. D-Wave may be the target of this type of litigation in the future. Litigation of this type could result in substantial costs and diversion of management's attention and resources, which could have a material adverse effect on D-Wave's business, financial condition, and results of operations. Any adverse determination in litigation could also subject D-Wave to significant liabilities.

If securities or industry analysts do not publish research, or publish inaccurate or unfavorable research, about D-Wave Quantum's business, the price and trading volume of D-Wave Quantum's securities could decline.

The trading market for D-Wave Quantum's securities will be influenced by the research and reports that industry or securities analysts may publish about D-Wave Quantum, its business, market or competitors. Securities and industry analysts currently publishing research on D-Wave Quantum may not continue to, and additional securities and industry analysts may never, publish research on D-Wave Quantum. If the number of securities or industry analysts is reduced or coverage is eliminated, D-Wave Quantum's share price and trading volume would likely be negatively impacted. If any of the analysts who currently or may in future cover D-Wave Quantum change their recommendation regarding the Common Shares adversely, or provide more favorable relative recommendations about D-Wave Quantum's competitors, the price of the Common Shares would likely decline. If any analyst who may cover D-Wave Quantum were to cease coverage of D-Wave Quantum or fail to regularly publish reports on it, D-Wave Quantum could lose visibility in the financial markets, which in turn could cause its share price or trading volume to decline.

The price of our Common Shares has been and may continue to be volatile or may decline regardless of our operating performance.

The market price of Common Shares has fluctuated significantly and may continue to do so in response to numerous factors, many of which are beyond its control, including:

- actual or anticipated fluctuations in its revenue or other operating metrics;
- changes in the financial guidance provided to the public or D-Wave Quantum's failure to meet this guidance;
- failure of securities analysts to initiate or maintain coverage of D-Wave Quantum, changes in financial estimates by any securities analysts who follow D-Wave Quantum, or its failure to meet the estimates or the expectations of investors;
- changes in accounting standards, policies, guidelines, interpretations, or principles;
- the economy as a whole and market conditions in its industry;

- rumors and market speculation involving D-Wave Quantum or other companies in its industry;
- announcements by D-Wave Quantum or its competitors of significant innovations, acquisitions, strategic partnerships, joint ventures, or capital commitments;
- new laws or regulations or new interpretations of existing laws or regulations applicable to its business;
- lawsuits threatened or filed against us;
- other events or factors, including those resulting from war, incidents of terrorism, or responses to these events;
- the expiration of contractual lock-up or market standoff agreements; and
- sales of additional Common Shares by D-Wave Quantum or its stockholders.

In addition, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. Stock prices of many companies have fluctuated in a manner unrelated or disproportionate to the operating performance of those companies. For example, the price per Common Share peaked at a high price of \$13.23 on August 10, 2022, shortly following the completion of the Transaction, and has since declined significantly. In the past, stockholders have instituted securities class action litigation following periods of market volatility. If D-Wave Quantum were to become involved in securities litigation, it could be subjected to substantial costs, divert resources and the attention of management from its business, and harm its business.

The Warrants may have an adverse effect on the market price of the Common Shares.

As of December 31, 2023, there were 17,916,609 Warrants outstanding, with each Warrant exercisable for 1.4541326 Common Shares, subject to adjustment, at \$11.50 per Common Share. Such Warrants, if exercised, would increase the number of issued and outstanding Common Shares and be dilutive to the Common Shares then outstanding.

The D-Wave Quantum Charter contains anti-takeover provisions that could adversely affect the rights of its stockholders.

The D-Wave Quantum Charter contains provisions to limit the ability of others to acquire control of D-Wave Quantum or cause it to engage in change-of-control transactions, including, among other things:

- provisions that authorize its board of directors, without action by its stockholders, to issue additional Common Shares and preferred stock with preferential rights determined by its board of directors;
- provisions that permit only a majority of its board of directors, the chairperson of the board of directors or the chief executive officer to call stockholder meetings and therefore do not permit stockholders to call special meetings of the stockholders;
- provisions generally eliminating stockholders' ability to act by written consent;
- provisions requiring a two-thirds super majority vote to remove a director; and
- provisions requiring certain amendments to our governing documents be made by a two-thirds super majority vote.

These provisions could have the effect of depriving holders of our Common Shares of an opportunity to sell their Common Shares at a premium over prevailing market prices by discouraging third parties from seeking to obtain control of D-Wave Quantum in a tender offer or similar transaction.

The D-Wave Quantum Charter provides, subject to limited exceptions, that the Court of Chancery of the State of Delaware is the sole and exclusive forum for certain stockholder litigation matters, which could limit D-Wave Quantum's stockholders' ability to obtain a favorable judicial forum for disputes with D-Wave Quantum or D-Wave Quantum's directors, officers, employees or stockholders.

The D-Wave Quantum Charter requires, to the fullest extent permitted by law, that, unless D-Wave Quantum consents in writing to the selection of an alternative forum, (a) any derivative action or proceeding brought on behalf of D-Wave Quantum; (b) any claim or cause of action for breach of a fiduciary duty owed by any current or former director, officer, employee, agent or stockholder of D-Wave Quantum to D-Wave Quantum or D-Wave Quantum's stockholders; (c) any claim or cause of action against D-Wave Quantum or any current or former director, officer or other employee of D-Wave Quantum, arising out of or pursuant to any provision of the DGCL, the D-Wave Quantum Charter or the amended and restated bylaws of D-Wave Quantum (the "*D-Wave Quantum Bylaws*") (as each may be amended from time to time); (d) any claim or cause of action seeking to interpret, apply, enforce or determine the validity of the D-Wave Quantum Charter or the D-Wave Quantum Bylaws (as each may be amended from time to time, including any right, obligation or remedy thereunder); (e) any claim or cause of action as to which the DGCL confers jurisdiction on the Court of Chancery of the State of Delaware; and (f) any claim or cause of action against D-Wave Quantum or any current or former director, officer or other employee of the corporation, governed by the internal-affairs doctrine or otherwise related to the corporation's internal affairs, in all cases to the fullest extent permitted by law and subject to the court having personal jurisdiction over the indispensable parties named as defendants. Subject to the preceding sentence, the federal district courts of the United States of America are to be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. However, such forum selection provisions do not apply to suits brought to enforce any liability or duty created by the Exchange Act or any other claim for which the federal courts of the United States have exclusive jurisdiction or for which there is concurrent federal and state jurisdiction.

The choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with D-Wave Quantum or its directors, officers, or other employees, which may discourage such lawsuits against D-Wave Quantum and its directors, officers, and other employees. Alternatively, if a court were to find the choice of forum provision contained in the D-Wave Quantum Charter to be inapplicable or unenforceable in an action, D-Wave Quantum may incur additional costs associated with resolving such action in other jurisdictions, which could harm D-Wave Quantum's business, results of operations, and financial condition.

Because D-Wave Quantum has no current plans to pay cash dividends on Common Shares for the foreseeable future, you may not receive any return on investment unless you sell Common Shares for a price greater than that which you paid for it.

D-Wave Quantum has not paid any dividends to its stockholders and has no intention to pay dividends on Common Shares for the foreseeable future. D-Wave Quantum's board of directors will consider whether or not to institute a dividend policy. The determination to pay dividends will depend on many factors, including, among others, D-Wave Quantum's financial condition, current and anticipated cash requirements, contractual restrictions and financing agreement covenants, solvency tests imposed by applicable corporate law and other factors that D-Wave Quantum's board of directors may deem relevant. In addition, D-Wave Quantum's ability to pay dividends may be limited by covenants of any existing and future outstanding indebtedness it or its subsidiaries incur. As a result, you may not receive any return on an investment in Common Shares unless you sell Common Shares for a price greater than that which you paid for it. See Item 5, "*Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.*"

General Risk Factors

Our business is exposed to risks associated with litigation and may become subject to litigation, investigations and regulatory proceedings including product liability claims, which could harm our financial condition and liquidity if we are not able to successfully defend or insure against such claims.

From time to time in the ordinary course of our business, we may become involved in various legal proceedings, including commercial, product liability, employment, class action and other litigation and claims, as well as governmental and regulatory investigations and proceedings. Such matters can be time-consuming, divert management's attention and resources and cause us to incur significant expenses. In addition, our insurance or indemnities may not cover all claims that may be asserted against us, and any claims asserted against us, regardless of merit or eventual outcome, may harm our reputation. Furthermore, because litigation is inherently unpredictable, the results of such actions may have a material adverse effect on our business, operating results or financial condition.

Unanticipated changes in effective tax rates or adverse outcomes resulting from examination of our income or other tax returns could adversely affect our results of operations and financial condition.

We may be subject to taxes by the U.S. federal, state, local and foreign tax authorities. Our future effective tax rates could be subject to volatility or adversely affected by a number of factors, including:

- allocation of expenses to and among different jurisdictions;
- changes in the valuation of our deferred tax assets and liabilities;
- expected timing and amount of the release of any tax valuation allowances;
- tax effects of stock-based compensation;
- costs related to intercompany restructurings;
- changes in tax laws, tax treaties, regulations or interpretations thereof; or
- lower than anticipated future earnings in jurisdictions where we have lower statutory tax rates and higher than anticipated future earnings in jurisdictions where we have higher statutory tax rates.

In addition, we may be subject to audits of our income, sales and other taxes by U.S. federal, state, and local and foreign taxing authorities. Outcomes from these audits could have an adverse effect on our operating results and financial condition.

Changes in tax laws or regulations that are applied adversely to us may materially adversely affect our business, prospects, financial condition and operating results.

New income, sales, use or other tax laws, statutes, rules, regulation or ordinances could be enacted at any time, or interpreted, changed, modified or applied adversely to us, any of which could adversely affect our business, prospects, financial performance and operating results. In particular, presidential, congressional, state and local elections in the United States could result in significant changes in, and uncertainty with respect to, tax legislation, regulation and government policy directly affecting our business or indirectly affecting us because of impacts on our customers, suppliers and manufacturers. For example, the United States government has recently enacted the Inflation Reduction Act of 2022 which, among other things, significantly changes the taxation of business entities including by imposing an alternative minimum tax on certain corporations, and may, from time to time, enact other changes to the taxation of business entities, the likelihood of which is unclear. We are currently unable to predict whether such changes will occur and, if so, the ultimate impact on our business. To the extent that such changes have a negative impact on us, including as a result of related uncertainty, these changes may materially and adversely affect our business, prospects, financial condition and operating results.

If we do not meet the expectations of investors or securities analysts, the market price of our securities may decline.

If we do not meet the expectations of investors or securities analysts, the market price of our securities may decline. In addition, fluctuations in the price of our securities could contribute to the loss of all or part of your investment. The trading price of our securities could be volatile and subject to wide fluctuations in response to various factors, some of which are beyond our control. Any of the factors listed below could have a material adverse effect on your investment in our securities and our securities may trade at prices significantly below the price you paid for them. In such circumstances, the trading price of our securities may not recover and may experience a further decline.

Factors affecting the trading price of our securities may include:

- actual or anticipated fluctuations in our quarterly financial results or the quarterly financial results of companies perceived to be similar to it;
- changes in the market's expectations about our operating results;
- success of competitors;
- our operating results failing to meet the expectation of securities analysts or investors in a particular period;
- changes in financial estimates and recommendations by securities analysts concerning D-Wave Quantum or the industries in which D-Wave Quantum operates;
- operating and share price performance of other companies that investors deem comparable to D-Wave Quantum;
- D-Wave Quantum's ability to market new and enhanced products and technologies on a timely basis;

- changes in laws and regulations affecting our business;
- our ability to meet compliance requirements;
- commencement of, or involvement in, litigation involving D-Wave Quantum;
- changes in D-Wave Quantum’s capital structure, such as future issuances of securities or the incurrence of additional debt;
- the volume of Common Shares available for public sale;
- any changes in our board of directors or management;
- sales of substantial amounts of Common Shares by our directors, executive officers or significant stockholders or the perception that such sales could occur; and
- general economic and political conditions such as recessions, interest rates, international currency fluctuations and acts of war or terrorism. See “—*Risks Related to D-Wave Quantum’s Business and Industry*”

Broad market and industry factors may materially harm the market price of our securities irrespective of our operating performance. The stock market in general, and the NYSE in particular, have experienced price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of the particular companies affected. The trading prices and valuations of these stocks, and of our securities, may not be predictable. A loss of investor confidence in the market for retail stocks or the stocks of other companies which investors perceive to be similar to D-Wave Quantum could depress D-Wave Quantum’s share price regardless of D-Wave Quantum’s business, prospects, financial conditions or results of operations. A decline in the market price of our securities also could adversely affect our ability to issue additional securities and our ability to obtain additional financing in the future.

D-Wave Quantum qualifies as an “emerging growth company” within the meaning of the Securities Act, and if D-Wave Quantum takes advantage of certain exemptions from disclosure requirements available to emerging growth companies, it could make D-Wave Quantum’s securities less attractive to investors and may make it more difficult to compare D-Wave Quantum’s performance to the performance of other public companies.

D-Wave Quantum qualifies as an “emerging growth company” as defined in Section 2(a)(19) of the Securities Act, as modified by the JOBS Act. As such, D-Wave Quantum is eligible for, and intends to take advantage of, certain exemptions from various reporting requirements applicable to other public companies that are not emerging growth companies for as long as it continues to be an emerging growth company, including (a) the exemption from the auditor attestation requirements with respect to internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act, (b) the exemptions from say-on-pay, say-on-frequency and say-on-golden parachute voting requirements and (c) reduced disclosure obligations regarding executive compensation in its periodic reports and proxy statements. D-Wave Quantum will remain an emerging growth company until the earliest of (1) the last day of the fiscal year (a) following the fifth anniversary of the date of the first sale of common equity securities pursuant to an effective registration statement, (b) in which D-Wave Quantum has total annual gross revenue of at least \$1.235 billion, or (c) in which D-Wave Quantum is deemed to be a large accelerated filer, which means the market value of Common Shares that is held by non-affiliates exceeds \$700 million as of the prior June 30th, and (2) the date on which D-Wave Quantum has issued more than \$1.0 billion in non-convertible debt during the prior three-year period.

In addition, Section 107 of the JOBS Act also provides that an emerging growth company can take advantage of the exemption from complying with new or revised accounting standards provided in Section 7(a)(2)(B) of the Securities Act as long as D-Wave Quantum is an emerging growth company. An emerging growth company can therefore delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected not to opt out of such extended transition period and, therefore, D-Wave Quantum may not be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies. Investors may find our securities less attractive because we will rely on these exemptions, which may result in a less active trading market for the Common Shares and the price of the Common Shares may be more volatile.

In the future, we may become a “controlled company” within the meaning of the rules of the NYSE. As a result, we may qualify for exemptions from certain corporate governance requirements that would otherwise be applicable to NYSE-listed companies.

D-Wave Quantum’s principal stockholder, PSP, beneficially owned approximately 37 percent of the issued and outstanding shares of D-Wave Quantum (including Exchangeable Shares) as of December 31, 2023. On September 26, 2022, D-Wave Quantum and PSP entered into the PSP Side Letter Agreement, pursuant to which PSP agreed that for so long as PSP beneficially owns, directly or indirectly, Common Shares and Exchangeable Shares representing 50 percent or more of the rights to vote at a meeting of the stockholders of D-Wave Quantum, whether directly or indirectly, including through any voting trust (i) PSP will not exercise the voting rights attached to any of such shares that would result in PSP voting, whether directly or indirectly, including through any voting trust, more than 49.99 percent of the voting interests eligible to vote at any meeting of the stockholders of D-Wave Quantum and (ii) PSP will vote such shares in favor of the election of the directors that are nominated by the board of directors of D-Wave Quantum or a duly authorized committee thereof. As a result of the limitations imposed by the PSP Side Letter Agreement, we do not believe that we are a “controlled company” within the meaning of the corporate governance standards of the NYSE, which require that more than 50 percent of the voting power for the election of directors be held by an individual, group or entity, and we are not currently utilizing any of the “controlled company” exemptions. However, we may become a “controlled company” in the future. If we become a “controlled company”, we would be able to elect not to comply with certain corporate governance requirements of the NYSE, including

- the requirement that a majority of our board of directors consist of “independent directors” as defined under the rules of the NYSE;
- the requirement that we have a compensation committee that is composed entirely of independent directors with a written charter addressing the committee’s purpose and responsibilities;
- the requirement that we have a nominating and corporate governance committee that is composed entirely of independent directors with a written charter addressing the committee’s purpose and responsibilities; and
- the requirement for an annual performance evaluation of the compensation and nominating and corporate governance committees.

Regardless of whether we become a “controlled company”, we do not intend to utilize any of the exemptions available to a “controlled company.” However, despite our intent, we would be able to elect to utilize such exemptions at our discretion if and for so long as we are a “controlled company.” Accordingly, if in the future we were to become a “controlled company” and we exercised our discretion to utilize such “controlled company” exemptions, you may not have the same protections afforded to stockholders of companies that are subject to all of the corporate governance requirements of the NYSE.

The interests of D-Wave Quantum’s principal stockholder, which is able to exert significant influence on the election of the members of D-Wave Quantum’s board of directors and other significant corporate decisions, may conflict with the interests of D-Wave Quantum or its stockholders in the future.

D-Wave Quantum’s principal stockholder, PSP beneficially owned approximately 37 percent of the issued and outstanding shares of D-Wave Quantum (including Exchangeable Shares) as of December 31, 2023, and is therefore able to exert significant influence on the vote on all matters submitted to a vote of D-Wave Quantum stockholders, which would enable it to significantly influence the election of the members of D-Wave Quantum’s board of directors and other significant corporate decisions. In particular, for so long as PSP continues to own a significant percentage of such shares, PSP may be able to prevent a change of control of D-Wave Quantum or a change in the composition of its board of directors and could effectively preclude any unsolicited acquisition of D-Wave Quantum. Such concentration of ownership could deprive you of an opportunity to receive a premium for your Common Shares as part of a sale of D-Wave Quantum, and ultimately may affect the market price of such shares. PSP and its affiliates engage in a broad spectrum of activities, and in the ordinary course of their business may engage in activities where their interests conflict with the interests of D-Wave Quantum or those of its other stockholders.

On September 26, 2022, D-Wave Quantum and PSP entered into the PSP Side Letter Agreement pursuant to which PSP agreed that for so long as PSP beneficially owns, directly or indirectly, Common Shares and Exchangeable Shares representing 50 percent or more of the rights to vote at a meeting of the stockholders of D-Wave Quantum, whether directly or indirectly, including through any voting trust (i) PSP will not exercise the voting rights attached to any of such shares that would result in PSP voting, whether directly or indirectly, including through any voting trust, more than 49.99 percent of the voting interests eligible to vote at any meeting of the stockholders of D-Wave Quantum and (ii) PSP will vote such shares in favor of the election of the directors that are nominated by the board of directors of D-Wave Quantum or a duly authorized committee thereof.

There is substantial doubt about our ability to continue as a going concern.

We have incurred operating losses since our inception and management expects operating losses and negative cash flows to continue for the foreseeable future and, as a result, we will require additional capital to fund our operations and execute our business plan. Management has determined that the Company's liquidity condition raises substantial doubt about the Company's ability to continue as a going concern, which is considered to be for a period of one year from the issuance of these financial statements. The analysis used to determine the Company's ability to continue as a going concern does not include cash sources outside of the Company's direct control that management expects to be available within the next twelve months. Our ability to continue as a going concern is dependent upon our ability to obtain sufficient funding through additional debt or equity financing and to manage operating and overhead costs. There can be no assurance that we will be able to raise sufficient capital on acceptable or favorable terms to the Company, or at all.

Item 1B. Unresolved Staff Comments

Not Applicable.

Item 1C. Cybersecurity

Risk management and strategy

We have implemented policies and procedures to evaluate, identify, and handle material risks associated with cybersecurity threats. These protocols are integrated into a comprehensive risk register dedicated to our cloud-based platform and internal systems access. The register undergoes an annual review conducted by the internal information technology (IT) department, overseeing cybersecurity protection for our on-premises systems, and the DevOps department, responsible for cybersecurity protection in the cloud. We also conduct regular risk assessments to identify threats to our information security systems. These risk assessments include identification of reasonably foreseeable internal and external risks, the likelihood and potential damage that could result from such risks, and the sufficiency of existing policies, procedures, systems, and safeguards in place to manage such risks. We assess the risks facing the Company after our controls are accounted for, and then determine mitigation measures for each such risk. Our risk management processes also assess third party risks, and we perform third-party risk management to identify and mitigate risks from third parties such as vendors, suppliers, and other business partners.

Following these risk assessments, we re-examine our systems and processes to ensure that reasonable safeguards are in place to minimize identified risks and address any issues that arise. The head of our IT department, who reports to our Chief Financial Officer, works with management to continuously evaluate and address cybersecurity risks in alignment with our business objectives and operational needs.

As part of our overall risk management system, we monitor and test our safeguards and train our employees on these safeguards, in collaboration with IT and management. Personnel at all levels receive regular mandatory training on our cybersecurity policies and practices.

We enlist third-party service providers to support us in conducting information security reviews of our infrastructure, and the evaluation of our company policies. These providers furnish comprehensive reports that delineate potential risks, categorized by criticality and associated level of effort. Subsequently, the Company will undertake a meticulous examination of the internal risk register to potentially recalibrate the likelihood of identified risks, taking into consideration the vulnerabilities unearthed by the third-party assessment. Depending on the type of services required, the sensitivity of the relevant IT systems and data, and the identity of the provider, our vendor management process may involve different levels of assessment designed to help identify cybersecurity risks associated with a provider and impose contractual obligations related to cybersecurity on the provider.

Upon identifying vulnerabilities, we commit to addressing them promptly, prioritizing based on their criticality. High-priority remediation efforts will be coordinated with the collaboration of Enterprise IT and DevOps teams to ensure swift and effective resolution. While the Company's Leap™ quantum cloud system holds SOC 2 Type 2 compliance, it's noteworthy that the correlation extends to all our IT systems, even though they are not explicitly within the defined scope. As a result, these interconnected IT systems align with SOC 2 Type 2 standards. Similarly, our policies regarding cybersecurity and IT systems are relevant for SOC 2 Type 2 compliance, but also apply to everyone in the entire organization.

We have not encountered cybersecurity challenges that have materially impaired our operations or financial standing. For additional information regarding risks from cybersecurity threats, please refer to Item 1A, "Risk Factors," in this annual report on Form 10-K.

Governance

Our board of directors addresses the Company's cybersecurity risk management as part of its general oversight function. Specifically, the board of directors' audit committee, is responsible for overseeing management's risk assessment and risk management policies, which include management of cybersecurity risk management processes.

Our Chief Financial Officer and the head of our IT department are primarily responsible for managing our cybersecurity risks, mitigation strategies and responses to any such issues that may arise. Our Chief Financial Officer oversees the Company's IT department and has extensive experience in managing IT organizations and securing cybersecurity insurance coverages. The head of our IT department drives our strategic IT initiatives and cybersecurity risks assessments, drawing upon over two decades of enterprise technology management expertise.

Our Chief Financial Officer and the head of our IT department oversee our cybersecurity policies and processes, including those described above. The Company's overall risks and assessments are monitored by a cross functional team composed of members of senior management, security, legal, information technology and financial reporting. A partnership exists between these aforementioned individuals and departments so that identified issues are addressed in a timely manner and incidents are escalated to the appropriate parties as required.

Item 2. Properties

We operate three facilities in North America. Our Canadian operations and the Quantum Engineering Center of Excellence is located in Burnaby, B.C., outside of Vancouver, where we lease approximately 42,000 square feet of space under an agreement that expires in December 2033. Most of the facility is used for research and development and manufacturing. We also lease approximately 7,000 square feet of space in Richmond, B.C., outside of Vancouver, under an agreement that expires in December 2024. That facility is used to develop and manufacture proprietary superconducting circuit boards for internal consumption, and for customer sales. Our in-house fabrication activities are performed in a facility in Palo Alto, California, where we lease approximately 6,000 square feet of space under an agreement that expires in June, 2025. We believe our current and planned facilities are adequate for the foreseeable future.

Item 3. Legal Proceedings

From time to time, we may become involved in legal proceedings arising in the ordinary course of business. There are currently no pending or threatened legal proceedings or claims against us that, in our opinion, are likely to have a material adverse effect on our business, operating results, financial condition or cash flows. Defending such proceedings is costly and can impose a significant burden on management and team members. The results of any future litigation cannot be predicted with certainty, but regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

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

Our Common Shares and Warrants began trading on the NYSE under the symbols "QBTS" and "QBTS.WT", respectively, on August 8, 2022. Prior to that, there was no public trading market for our Common Shares and Warrants.

Holders of Record

On March 28, 2024, the last reported sales prices of the Common Shares and Warrants were \$2.10 and \$0.22, respectively. As of March 28, 2024, there were approximately 111 holders of record of our Common Shares, approximately 32 holders of record of our Exchangeable Shares and 1 holders of record of our Warrants. Such numbers do not include beneficial owners holding our securities through nominee names.

Dividend Policy

We have never declared or paid any cash dividends on our Common Shares to our stockholders and we do not currently intend to pay any cash dividends on Common Shares for the foreseeable future. We currently intend to retain all available funds and any future earnings to support operations and to finance the growth and development of our business. Any future determination to pay dividends will be made at the discretion of our board of directors, subject to applicable laws and will depend upon, among other factors, our results of operations, financial condition, contractual restrictions and capital requirements.

Issuer Purchases of Equity Securities

None.

Performance Graph

Not applicable.

Unregistered Sales of Equity Securities

There were no unregistered sales of equity securities which have not been previously disclosed in a Quarterly Report on Form 10-Q or a Current Report on Form 8-K during the fiscal year ended December 31, 2023. As of December 31, 2023, we have sold an aggregate number of 44,026,644 Common Shares to Lincoln Park pursuant to the Purchase Agreement (excluding the Common Shares paid in respect of the Commitment Fee) for aggregate consideration of \$67.9 million.

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 together with the consolidated financial statements and related notes included elsewhere in this Form 10-K. The following discussion contains forward-looking statements based upon current expectations that involve risks, uncertainties and assumptions. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those risk factors applicable to D-Wave and its business referenced under the section titled "Risk Factors" elsewhere in this Form 10-K. Our historical results are not necessarily indicative of the results that may be expected for any period in the future. In this section, unless otherwise specified, the terms "we", "our", "us", "D-Wave" or the "Company" refer to D-Wave Quantum Inc. and its subsidiaries following the Closing while "D-Wave Systems" refers to D-Wave Systems Inc. prior to the Closing. All other capitalized terms have the meanings ascribed thereto elsewhere in this Form 10-K. All dollar amounts are expressed in thousands of United States dollars ("\$"), unless otherwise indicated.

Overview

On February 7, 2022, D-Wave Systems entered into the Transaction Agreement with DPCM, D-Wave, Merger Sub, CallCo, and ExchangeCo, pursuant to which, among other things: (a) Merger Sub merged with and into DPCM, with DPCM surviving as a direct, wholly-owned subsidiary of D-Wave, (b) D-Wave indirectly acquired all of the outstanding share capital of D-Wave Systems and D-Wave Systems became an indirect subsidiary of D-Wave, with D-Wave becoming a public company and an SEC registrant as successor to DPCM (the "Merger").

D-Wave was incorporated as a corporation organized and existing under the DGCL on January 24, 2022. The Company was formed for the purpose of effecting a merger between DPCM, D-Wave, and certain other affiliated entities through a series of transactions constituting the Merger pursuant to the Transaction Agreement. The closing of the Merger occurred on August 5, 2022 and is herein referred to as "the Closing."

On the date of the Closing, DPCM and D-Wave Systems became wholly-owned subsidiaries of, and are operated, by D-Wave. Upon the completion of the Merger, D-Wave succeeded to all of the operations of its predecessor, D-Wave Systems.

Following the Closing, the Common Shares and Warrants of D-Wave commenced trading on the NYSE under the ticker symbols "QBTS" and "QBTS.WT," respectively.

We are a commercial quantum computing company that provides customers with a full suite of professional services and web-based access to our superconducting quantum computer systems and integrated software environment through our cloud service, LeapTM. Historically, we have developed our own annealing superconducting quantum computer and associated software, and our current generation quantum system is the D-Wave AdvantageTM. We are a leader in the development and delivery of quantum computing systems, software and services, and we are the world's first commercial supplier of quantum computers—and the only company developing both annealing quantum computers and gate-model quantum computers. During the year ended December 31, 2022, we initiated the development of a gate-model quantum computing system.

Our business model is focused primarily on generating revenue from providing customers access to our quantum computing systems via the cloud in the form of QCaaS products, and from providing professional services wherein we assist our customers in identifying and implementing quantum computing applications. We have three operating facilities, which we lease, in North America. These facilities are located in Burnaby, British Columbia, Richmond, British Columbia, and Palo Alto, California.

During the years ended December 31, 2023 and 2022, we generated revenue totaling \$8.8 million and \$7.2 million, respectively. We have incurred significant operating losses since inception. For the years ended December 31, 2023 and 2022, our net losses were \$82.7 million and \$53.7 million, respectively. We expect to continue to incur significant losses for the foreseeable future as we continue to invest in a number of research and development programs as well as a variety of go-to-market initiatives. As of December 31, 2023, we had an accumulated deficit of \$483.1 million.

The Transaction Agreement and PIPE Financing

As noted above, the Merger pursuant to the Transaction Agreement was consummated on August 5, 2022. While the legal acquirer in the Transaction Agreement is D-Wave Quantum Inc., for financial accounting and reporting purposes under GAAP, D-Wave Systems is the accounting acquirer and the Merger is accounted for as a "reverse recapitalization." A reverse recapitalization does not result in a new basis of accounting and the financial statements of D-Wave represent the continuation of our financial statements in many respects. Under this method of accounting, DPCM is treated as the "acquired" company for financial reporting purposes. For accounting purposes, D-Wave Systems will be deemed to be the accounting acquirer in the transaction and, consequently, the transaction is treated as a recapitalization of D-Wave Systems (i.e., a capital transaction involving the issuance of stock by D-Wave Quantum Inc. for the stock of D-Wave Systems Inc.).

As a result of the Merger, all of the shares of D-Wave Systems common stock issued and outstanding immediately prior to the closing of the Merger (including D-Wave Systems common shares resulting from D-Wave Systems preferred stock conversion) were converted into an aggregate of 99,736,752 Common Shares (including Exchangeable Shares). Additionally, all of the shares of DPCM Class A Common Stock and Class B Common Stock held by DPCM issued and outstanding immediately prior to the Closing were converted into an aggregate of 4,327,512 Common Shares. Upon consummation of the Merger, the most significant change in our reported financial position and results of operations was an increase in cash of \$49.0 million in gross proceeds from the Merger and PIPE Financing netted against transaction costs of approximately \$14.2 million.

In connection with the Merger, approximately 29.1 million shares of DPCM Class A Common Stock were redeemed, which represented a significant portion of the publicly traded shares of DPCM outstanding immediately prior to the Merger and resulted in only approximately \$9.0 million of cash from the DPCM Trust Account becoming available to us. As discussed elsewhere in this Form 10-K, we entered into the Purchase Agreement, pursuant to which Lincoln Park agreed to purchase up to \$150.0 million of Common Shares through the Purchase Agreement (subject to certain limitations contained in the Purchase Agreement) from time to time over a 36-month period, to assist us in meeting our capital requirements. However, we may not sell any Common Shares to Lincoln Park unless and until the price of our Common Shares subsequently exceeds the Floor Price of \$1.00.

Common Shares that may be resold into the public markets pursuant to the Purchase Agreement could have a significant negative impact on the trading price of our Common Shares.

We have also filed the Resale Registration Statement registering the issuance to and/or resale by certain third parties unrelated to the Purchase Agreement of certain securities issued prior to, or in connection with, the Merger. The Common Shares registered for resale from time to time pursuant to the Resale Registration Statement represent a substantial majority of the number of the Common Shares outstanding as of December 31, 2023. The shareholders selling pursuant to the Resale Registration Statement will determine the timing, pricing and rate at which they sell such Common Shares into the public market and such sales could have a significant negative impact on the trading price of our Common Shares. In addition, PSP, a beneficial owner of approximately 37% of our outstanding Common Shares (including Common Shares underlying Exchangeable Shares) as of December 31, 2023, has registration rights with respect to all of its 55,068,914 shares not registered on the Resale Registration Statement, and, since its lock-up period has concluded, may sell such shares either pursuant to a future registration statement or once Rule 144 under the Securities Act becomes available for such sales. Although the current trading price of the Common Shares is below \$10.00 per share, certain of the investors who have resale rights under the Resale Registration Statement have an incentive to sell because they purchased Common Shares and/or Warrants at prices below those offered in DPCM's IPO. Sales by such investors may cause the trading prices of our securities to experience a further decline. As the trading price of our Common Shares has declined, sales of Common Shares to Lincoln Park pursuant to the Purchase Agreement have become a less attractive source of capital. In addition, we may be unable to raise capital at rates that would be possible if the trading price of our Common Shares was higher.

As a result of the Merger, we became subject to the reporting requirements under the Exchange Act and listing standards of the NYSE, which has required us to hire additional personnel and implement procedures and processes to address applicable regulatory requirements and customary practices. We expect D-Wave will incur additional annual expenses as a public company for, among other things, directors' and officers' liability insurance, director fees and additional internal and external accounting, legal and administrative resources, including increased audit, legal, and filing fees.

Our future results of consolidated operations and financial position may not be comparable to historical results as a result of the Merger.

Macroeconomic and Business Environment

Unfavorable conditions in the economy in the United States, Canada and abroad, including conditions resulting from changes in gross domestic product growth, financial and credit market fluctuations, banking collapses and related uncertainty, international trade relations, political turmoil, natural catastrophes, outbreaks of contagious diseases, warfare and terrorist attacks on the United States, Europe or elsewhere, including military actions affecting Russia, Ukraine, Israel or elsewhere, could cause a decrease in business investments on our products and negatively affect the growth of our business and our results of operations.

The recent trends towards rising inflation may materially adversely affect our business and corresponding financial position and cash flows. Inflationary factors, interest rates and overhead costs may adversely affect our operating results. High interest and inflation rates also present a recent challenge impacting the U.S. and Canadian economies and could make it more difficult for us to obtain traditional financing on acceptable terms, if at all, in the future. Although we do not believe that inflation has had a material impact on our financial position or results of operations to date, we may experience increases in the near future (especially if inflation rates remain high or continue to rise) on our operating costs, including our labor, due to supply chain constraints and employee availability and wage increases, which may result in additional stress on our working capital resources.

Key Components of Results of Operations

Revenue

We currently generate our revenue primarily through subscription sales to access our QCaaS cloud platform and professional services related to the development and implementation of quantum computing applications. QCaaS revenue is recognized on a ratable basis over the contract term, which generally ranges from one month to two years. Professional services revenue is recognized over time on a percentage of completion basis using the costs incurred input measure of progress.

We expect that QCaaS revenue, as a percentage of total revenue, will increase due to an increasing number of QCaaS agreements being driven by the completion of professional services engagements yielding production applications that require QCaaS services, as well as by customers that choose to access our Leap cloud service without utilizing our professional services organization.

Cost of Revenue

Our cost of revenue consists of all direct and indirect expenses related to providing our QCaaS offering and delivering our professional services, such as personnel-related expenses, including stock-based compensation, costs associated with maintaining the cloud platform on which we provide the QCaaS product and depreciation and amortization related to our quantum computing systems and related software.

We expect our total cost of revenue to increase in absolute dollars in future periods, corresponding to our anticipated growth in revenue and necessary to support our customers and to maintain the QCaaS cloud offering, operate our quantum computing systems, and to deliver our professional services. We expect our cost of revenue as a

percentage of total revenue to decrease over time due to a higher mix of QCaaS revenue that has a lower cost to deliver compared to professional service revenue.

Operating Expenses

Our operating expenses consist of research and development, general and administrative, and sales and marketing expenses.

Research and Development

Research and development expenses consist primarily of personnel-related expenses, including salaries, benefits and stock-based compensation for personnel, fabrication costs, lab supplies, and cloud computing resources and allocated facility costs for our research and development functions. Unlike a standard computer, design and development efforts continue throughout the useful life of our quantum computing systems to ensure proper calibration and optimal functionality. Research and development expenses also include purchased hardware components, fabrication and software costs related to quantum computing systems constructed for research purposes that do not have a high probability of providing near-term future economic benefits, and may have no alternate future use. We currently do not capitalize any research and development expenses.

We expect our research and development expenses will increase on an absolute dollar basis for the foreseeable future as we continue to invest in research and development efforts to enhance the performance of our annealing quantum computers, to complete the development of our gate model quantum computer, and to broaden the functionality, improve the reliability, availability and scalability of our QCaaS cloud platform. If in the future we receive government grants and research incentives, which have historically offset a portion of research and development costs, these costs could decrease in absolute dollars.

General and Administrative

General and administrative expenses consist primarily of personnel-related expenses, including salaries, benefits and stock-based compensation for personnel and outside professional services expenses including legal, audit and accounting services, insurance, other administrative expenses and allocated facility costs for our administrative functions.

We expect our general and administrative expenses to decrease in absolute dollars in the near term due to significant investments in scaling up our ability to operate as a public company made in prior years. However, in future periods we expect general and administrative expenses to increase in absolute dollars as we continue to invest in more comprehensive compliance and governance functions, increased IT security and compliance, and expanded internal controls over financial reporting in accordance with the Sarbanes-Oxley Act.

Sales and Marketing

Sales and marketing expenses consist primarily of personnel-related expenses, including salaries, benefits and stock-based compensation for personnel, direct advertising, marketing and promotional material costs, sales commission expense, consulting fees and allocated facility costs for our sales and marketing functions. We intend to continue to make significant investments in our sales and marketing organization to drive additional revenue, expand our global customer base, and broaden our brand awareness. We expect our sales and marketing expenses to continue to increase in absolute dollars for the foreseeable future.

Results of Operations

The following table sets forth our results of operations for the periods indicated (in thousands):

<i>(In thousands, except share and per share data)</i>	Year ended December 31,	
	2023	2022
Revenue	\$ 8,758	\$ 7,173
Cost of revenue	4,136	2,923
Total gross profit	4,622	4,250
Operating expenses:		
Research and development	37,878	32,101
General and administrative	37,014	21,539
Sales and marketing	10,276	10,068
Total operating expenses	85,168	63,708
Loss from operations	(80,546)	(59,458)
Other income (expense), net:		
Interest expense	(37)	(2,335)
Change in fair value of Term Loan	640	—
Term Loan debt issuance costs	(2,118)	—
Change in fair value of warrant liabilities	262	6,173
Lincoln Park Purchase Agreement issuance costs	—	(629)
Other income, net	(916)	2,547
Total other income, net	(2,169)	5,756
Net loss	\$ (82,715)	\$ (53,702)
Foreign currency translation adjustment, net of tax	(115)	41
Net comprehensive loss	\$ (82,830)	\$ (53,661)

Comparison of the Year Ended December 31, 2023 and 2022

Revenue

Revenue increased by \$1.6 million, or 22%, to \$8.8 million for the year ended December 31, 2023 as compared to \$7.2 million for the year ended December 31, 2022, with the increase due primarily to an increase of \$2.3 million in professional services revenue, primarily driven by an increase in projects that enable our customers to identify and implement applications that leverage our QCaaS cloud platform, offset by a decrease in QCaaS revenue of \$0.7 million, due to non-renewal for several customer contracts that were partially replaced with new customer contracts.

Cost of Revenue

Cost of revenue increased by \$1.2 million, or 41%, to \$4.1 million for the year ended December 31, 2023 as compared to \$2.9 million for the year ended December 31, 2022. The increase in cost of revenue was primarily driven by investments made to support a higher volume of services. The cost of revenue increases were primarily comprised of increases in stock-based compensation expenses and personnel costs of \$0.9 million and \$0.5 million, respectively, offset by decreases in quantum computing infrastructure costs of \$0.1 million.

Operating Expenses

Research and Development Expenses

(In thousands, except percentages)	Year Ended December 31,		Change	
	2023	2022	Amount	%
Research and development	\$ 37,878	\$ 32,101	\$ 5,777	18 %

Research and development expenses increased by \$5.8 million, or 18%, to \$37.9 million for the year ended December 31, 2023 compared to \$32.1 million for the year ended December 31, 2022. The increase in research and development expenses was primarily driven by our continuous efforts to broaden the functionality of our QCaaS cloud platform and improve the reliability, availability and scalability of our cloud platform. In particular, the increases were comprised of stock-based compensation expenses, other personnel costs, and fabrication expenses of \$5.1 million, \$0.5 million, and \$0.9 million respectively, and were partly offset by decreases in facilities costs and consulting expenses of \$0.6 million and \$0.2 million, respectively.

General and Administrative Expenses

(In thousands, except percentages)	Year Ended December 31,		Change	
	2023	2022	Amount	%
General and administrative	\$ 37,014	\$ 21,539	\$ 15,475	72 %

General and administrative expenses increased by \$15.5 million, or 72%, to \$37.0 million for the year ended December 31, 2023 as compared to \$21.5 million for the year ended December 31, 2022. The increase was driven by investments made to scale up our ability to operate as a public company and was primarily comprised of increases in stock-based compensation expense, other personnel costs, professional fees, insurance costs, and facilities expenses of \$8.7 million, \$0.8 million, \$4.0 million, \$1.3 million, and \$0.4 million, respectively.

Sales and Marketing Expenses

(In thousands, except percentages)	Year Ended December 31,		Change	
	2023	2022	Amount	%
Sales and marketing	\$ 10,276	\$ 10,068	\$ 208	2 %

Sales and marketing expenses increased by \$0.2 million, or 2%, to \$10.3 million for the year ended December 31, 2023 as compared to \$10.1 million for the year ended December 31, 2022. The increase was primarily due to increased personnel costs and professional fees of \$2.1 million and \$0.2 million, respectively, offset by decreased stock-based compensation expenses of \$2.0 million.

Other Income (Expense), net

Interest Expense

(In thousands, except percentages)	Year Ended December 31,		Change	
	2023	2022	Amount	%
Interest expense	\$ (37)	\$ (2,335)	\$ 2,298	(98)%

Interest expense decreased by \$2.3 million, or 98%, to \$37 thousand for the year ended December 31, 2023 as compared to \$2.3 million for the year ended December 31, 2022. The decrease is due to an increase in the benefit from the catch-up method adjustment (see Note 8 to the accompanying consolidated financial statements) on the Company's SIF Loan to \$2.9 million from \$0.6 million in the comparable period.

Change in fair value of Term Loan

	Year Ended December 31,		Change	
	2023	2022	Amount	%
(In thousands, except percentages)				
Change in fair value of Term Loan	\$ 640	\$ —	\$ 640	n/a

Change in Change in fair value of Term Loan increased by \$0.6 million for the year ended December 31, 2023 as compared to zero for the year ended December 31, 2022. On April 13, 2023, the Company entered into a Term Loan with PSPIB, providing \$50.0 million in aggregate principal amount over three tranches, with the first two tranches, each \$15.0 million, disbursed on April 14, 2023, and July 13, 2023, respectively. The Company opted for the fair value option for accounting the Term Loan (See Note 2 to the accompanying consolidated financial statements). Changes in the fair value of the Term Loan, excluding changes due to the Company's own credit risk, are recorded as gains or losses in the Company's consolidated statements of operations and comprehensive loss in each reporting period. The fair value of the Term Loan varies primarily based on the market yield rate, market yield volatility, probability for an event of default and the probability of the issuance of Common Shares under the Purchase Agreement.

Term Loan debt issuance costs

	Year Ended December 31,		Change	
	2023	2022	Amount	%
(In thousands, except percentages)				
Term Loan debt issuance costs	\$ (2,118)	\$ —	\$ (2,118)	n/a

Change in Term Loan debt issuance costs increased by \$2.1 million for the year ended December 31, 2023 as compared to zero for the year ended December 31, 2022. As mentioned previously, the Company elected the fair value option for accounting the Term Loan. Under this option, debt issuance costs are recorded in other expenses in the Company's consolidated statements of operations and comprehensive loss.

Change in fair value of warrant liabilities

	Year Ended December 31,		Change	
	2023	2022	Amount	%
(In thousands, except percentages)				
Change in fair value of warrant liabilities	\$ 262	\$ 6,173	\$ (5,911)	100%

Change in fair value of warrant liabilities decreased by \$5.9 million for the year ended December 31, 2023 as compared to \$6.2 million for the year ended December 31, 2022. The fair value of the warrant liabilities varies primarily with the trading price of the Public Warrants listed on the New York Stock Exchange.

Lincoln Park Purchase Agreement issuance costs

	Year Ended December 31,		Change	
	2023	2022	Amount	%
(In thousands, except percentages)				
Lincoln Park Purchase Agreement issuance costs	\$ —	\$ (629)	\$ 629	-100%

There were no issuance costs incurred in connection with the Lincoln Park Purchase Agreement during the year ended December 31, 2023.

Other income (expense), net

	Year Ended December 31,		Change	
	2023	2022	Amount	%
(In thousands, except percentages)				
Other income (expense), net	\$ (916)	\$ 2,547	\$ (3,463)	(136)%

Other income (expense), net increased by \$3.5 million or 136%, to \$0.9 million for the year ended December 31, 2023 as compared to \$2.5 million for the year ended December 31, 2022. The increase was largely driven by the net impact of foreign exchange gains and losses.

Liquidity and Capital Resources

Since its inception, the Company has incurred net losses and negative cash flows from operations. As of December 31, 2023, the Company had an accumulated deficit of \$483.1 million. For the years ended December 31, 2023 and 2022, the Company incurred a net loss of \$82.7 million and \$53.7 million, respectively, and the Company had net cash outflows from operating activities of \$60.6 million and \$45.2 million, respectively. As of December 31, 2023, the Company had cash of \$41.3 million and working capital (current assets less current liabilities) of \$35.8 million. Additionally, total liabilities exceeded total assets at December 31, 2023 by \$24.5 million. The Company expects to incur additional operating losses and negative cash flows from operating activities as it continues to expand its commercial operations and research and development programs.

On August 5, 2022, the Company completed a Merger with DPCM. The Company received gross proceeds of \$49.0 million from the PIPE Investment (as defined below) and the DPCM trust account. Of the gross proceeds, \$21.8 million were used to repay the Venture Loan obligations and \$14.2 million were used to pay for the Company's transaction costs, including DPCM's transaction costs, associated with the Merger. On April 13, 2023 (the "Closing Date"), the Company entered into a Term Loan and Security Agreement (the "Term Loan"), by and between the Company and PSPIB Unitas Investments II Inc., ("PSPIB" or the "Lender"), a related party to the Company's largest shareholder. As further described in Note 8 - Loans payable, net, the Term Loan provides for an aggregate principal amount of \$50.0 million to be made available to the Company in three tranches, subject to certain terms and conditions as defined in the Term Loan, including a financial covenant that measures the Company's revenue against certain minimum percentages of budgeted revenue per quarter. The first two tranches of the Term Loan, each amounting to \$15.0 million in principal, were advanced to D-Wave on April 14, 2023 and July 13, 2023, respectively. The Lender agreed to modify certain conditions to the funding of the second tranche of the Term Loan, including delaying the delivery of a board-approved operating budget and plan for the Company's fiscal years 2023 through 2027 to August 31, 2023 (later extended to December 31, 2023); modifying the condition that, prior to the funding of the second tranche, the Company shall have nominated an additional director that is either an employee of PSPIB or an independent director selected from PSPIB nominees to require such appointment at a later time at PSPIB's option; and modifying notice deadline requirements for the registration or filings of intellectual property. PSPIB has also agreed to waive certain covenants under the Term Loan that the Company did not meet, including the minimum revenue financial covenant for the second and third fiscal quarters ended June 30, 2023 and September 30, 2023, respectively. The availability of the third tranche of \$20.0 million was subject to the satisfaction of certain conditions, including the closing of a \$25.0 million non-dilutive financing on terms reasonably acceptable to the Lender, the intellectual property valuation report submitted as a condition precedent to the second tranche remaining satisfactory to the Lender and the board-approved operating budget for 2023 through 2027 to be submitted by December 31, 2023, being satisfactory to the Lender. The Company submitted the board-approved operating budget by December 31, 2023. There can be no assurance that the Company will be able to meet the other conditions necessary to draw on the third tranche or will be able to comply with the covenants of the Term Loan, or that PSPIB will agree to waive covenants under the Term Loan in the future. As of December 31, 2023, the Company was in compliance with the covenants under the Term Loan.

In conjunction with the Merger, the Company and D-Wave Systems entered into a purchase agreement with Lincoln Park on June 16, 2022 (the "Purchase Agreement") which provides D-Wave the sole right, but not the obligation, to direct Lincoln Park to buy specified dollar amounts up to \$150.0 million of D-Wave's common stock, par value \$0.0001 per share through November 1, 2025. The Purchase Agreement may provide the Company and D-Wave with additional liquidity to fund the business, subject to the conditions set forth in the agreement, including volume limitations tied to periodic market prices, ownership limitations restricting Lincoln Park from owning more than 9.9% of the then total outstanding Common Shares and a floor price of \$1.00 at or below which the Company may not sell to Lincoln Park any Common Shares. When the Company sells shares to Lincoln Park, Lincoln Park may resell all, some, or none of those Common Shares at any time or from time to time in its discretion. During the year ended December 31, 2023, the Company has received \$63.7 million in proceeds through the issuance of 42.1 million Common Shares to Lincoln Park under the Purchase Agreement. In order for the Company to issue Common Shares under the Purchase Agreement, the Company's share price must be above the floor price of \$1.00. There is no assurance that the floor price will not fall below \$1.00 preventing the Company from being able to make sales to Lincoln Park in the future.

To the extent that sufficient capital is not obtained through the cash received in connection with the proceeds of the Term Loan or the issuance of Common Shares under the Purchase Agreement with Lincoln Park, management will be required to obtain additional capital through the issuance of debt and/or equity, or other arrangements. However, there can be no assurance that D-Wave will be able to raise additional capital when needed or under acceptable terms. The issuance of additional equity may dilute existing stockholders and newly issued shares may contain senior rights and preferences compared to the currently outstanding common stock. Any future debt may contain covenants and limit D-Wave's ability to pay dividends or make other distributions to stockholders. If D-Wave is unable to obtain additional financing, operations will be scaled back or discontinued.

As of December 31, 2023, the Company was not in compliance with certain continued listing standards of the New York Stock Exchange ("NYSE"). On March 1, 2024, the NYSE provided D-Wave with a notification letter of recompliance based on a calculation of the Company's average closing share price for the 30 trading days ended February 29, 2024, which reflected an average closing share price above the NYSE's \$1.00 minimum requirement. D-Wave will continue to be traded on the NYSE, subject to its continued compliance with all applicable listing standards.

If the Company is unable to maintain compliance with the continued listing standards of the NYSE and is not able to cure any violations within the time periods allotted by the NYSE, if any, it will result in the delisting of the Company's common stock from the NYSE, which could negatively impact the trading price, trading volume and liquidity of, and have other material adverse effects on, the Company's common stock and its ability to raise capital.

In connection with the Company's assessment of going concern considerations in accordance with Financial Accounting Standard Board's Accounting Standards Codification ("ASC") Topic 205-40, "*Basis of Presentation—Going Concern*", management has determined that the Company's liquidity condition raises substantial doubt about the Company's ability to continue as a going concern, which is considered to be for a period of one year from the issuance of these financial statements. These consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of this uncertainty. Such adjustments could be material.

Cash Flows

The following table sets forth our cash flows for the periods indicated (in thousands):

	Year Ended December 31,	
	2023	2022
Net cash (used in) provided by:		
Operating Activities	\$ (60,649)	\$ (45,226)
Investing Activities	(630)	(498)
Financing Activities	95,636	43,265
Effect of exchange rate changes on cash and cash equivalents	(115)	41
Net (decrease) increase in cash and cash equivalents	<u>\$ 34,242</u>	<u>\$ (2,418)</u>

Cash Flows Used in Operating Activities

Our cash flows from operating activities are significantly affected by the growth of our business, and are primarily related to research and development, sales and marketing and general and administrative activities. Our operating cash flows are also affected by our working capital needs to support growth in personnel-related expenditures and fluctuations in accounts payable, accounts receivable and other current assets and liabilities.

For the year ended December 31, 2023, net cash used in operating activities was \$60.6 million, an increase of \$15.4 million from cash used in operating activities of \$45.2 million for the year ended December 31, 2022. The change is primarily due to an increase in net loss of \$29.0 million and an increase in net cash used to settle accounts payable of \$6.2 million, offset by increases on noncash charges related to stock-based compensation of \$12.8 million and decreases in noncash income related to the change in fair value of warrant liabilities of \$5.9 million.

Cash Flows Used in Investing Activities

Net cash used in investing activities during the year ended December 31, 2023 was \$0.6 million, representing additions of \$0.6 million in property and equipment.

Net cash used in investing activities during the year ended December 31, 2022 was \$0.5 million representing additions of \$0.4 million in property and equipment and \$0.1 million in software primarily related to the development of our quantum computing systems.

Cash Flows Provided by Financing Activities

Net cash provided by financing activities during the year ended December 31, 2023 was \$95.6 million, an increase of \$52.4 million from cash provided by financing activities of \$43.3 million for the year ended December 31, 2022. The increase a result of increased net proceeds from equity financing activities of \$22.1 million and increased net proceeds from debt financing activities of \$30.3 million.

Contractual Obligations and Commitments

The Company has various operating leases of real estate and equipment. See Note 9 - Leases to the accompanying consolidated financial statements for further discussion of the nature and timing of cash obligations due under these leases.

Critical Accounting Estimates

Our consolidated financial statements included in this Form 10-K have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities. We also make estimates and assumptions that affect the reported amounts and related disclosures for the periods presented. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances. The results of these estimates form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ significantly. Additionally, changes in assumptions, estimates or assessments due to unforeseen events or otherwise could have a material impact on our financial position or results of operations.

The critical accounting estimates, assumptions and judgements we believe to have the most significant impact on our audited annual consolidated financial statements are described below. See Note 2 - Basis of Presentation and Summary of Significant Accounting Policies to the audited consolidated financial statements included elsewhere in this Form 10-K for additional information related to critical accounting estimates and significant accounting policies.

Revenue recognition

We recognize revenue from the sale of our services and products. Our contracts with customers often include multiple performance obligations. Our performance obligations are as follows:

- Subscription sales to access our QCaaS cloud platform;
- Professional services related to the development and implementation of quantum computing applications;
- Quantum computing application training;
- Application support and maintenance; and
- Printed circuit boards.

Our contracts with customers may include renewals or other options at fixed prices, which typically do not represent a significant discount. Based on our assessment of standalone selling prices, we determined that there were no significant material rights provided to our customers requiring separate recognition.

When we determine that our contracts with customers contain multiple performance obligations, for these arrangements, we allocate the transaction price based on the relative standalone selling price ("SSP") method by comparing the SSP of each distinct performance obligation to the total value of the contract. We use the SSP for products and services sold together in a contract to determine whether there is variable consideration (e.g. discount) to be allocated based on the relative SSP of the various products and services. In instances where SSP is not directly observable, such as when we don't sell the product or service separately, we determine the SSP by considering its overall pricing objectives and market conditions, including cost plus a reasonable margin. Significant pricing practices taken into consideration include our discounting practices, the customer demographic, price lists, our go-to-market strategy, historical and current sales and contract prices. In instances where we do not sell or price a product or service separately, we maximize the use of observable inputs by using information that may include market conditions.

Sales of future revenues

On November 20, 2020, the Company entered into an agreement with the Canada Strategic Innovation Fund ("SIF"), wherein SIF committed to providing a conditionally repayable loan to the Company in the amount of up to C\$40.0 million ("the SIF Loan"). The SIF Loan is conditionally repayable according to a revenue-based formula. See Note 8 to the accompanying consolidated financial statements for additional information concerning the SIF Loan.

The accounting treatment for the SIF Loan considers the "sale of future revenues" guidance outlined in ASC 470-10-25. The debt arising from the SIF Loan was recorded at face value and will be amortized using the effective interest method, leading to the accrual of interest expenses over the estimated term of the SIF Loan. The amortization schedule is based on projected cash flows derived from the Company's long-term revenue forecast. Subsequent changes in forecasted cash flows will be accounted for under the catch-up method, which entails adjusting the accrued interest portion of the principal balance through earnings to reflect the effective interest rate. For the year ended December 31, 2023 and 2022, the Company recognized gains related to catch-up method adjustments to the accrued interest portion of the loans payable, net balance of \$2.9 million and \$0.6 million, respectively. The liability is classified as non-current, as the current forecast indicates that repayments will not commence within the 12 months following the balance sheet date.

As the SIF Loan is originated through a government program, a market rate of interest is not imputed in accordance with the scope limitations of ASC 835.

Term Loan fair value option election

The Company determined that it is eligible for the fair value option election in connection with the Term Loan. The Term Loan meets the definition of a "recognized financial liability" which is an acceptable financial instrument eligible for the fair value option under ASC 825. At the date of issuance, the fair value of the Term Loan was derived from the instrument's implied discount rate at inception. The fair value option election was made to enhance the relevance and transparency of information presented related the features embedded in the Term Loan.

Changes in the fair value of the Term Loan, other than changes associated with the Company's own credit risk, are recorded as gains or losses in the Company's consolidated statements of operations and comprehensive loss in each reporting period. Changes in fair value attributable to the Company's own credit risk are recorded in other comprehensive income or loss in the Company's consolidated statements of operations and comprehensive loss in each reporting period; there have been no such changes for the year ended December 31, 2023. Under the fair value option, debt issuance costs are recorded in other expense in the Company's consolidated statements of operations and comprehensive loss.

The Term Loan is subject to certain repayment and prepayment provisions which the Company has considered in their valuation analysis. The valuation analysis performed as of the issuance date on April 13, 2023 and December 31, 2023 did not consider any amendments to the Term Loan that occurred subsequent to December 31, 2023 (See Note 8). To estimate the fair value of the Term Loan under the optional prepayment scenario, we have utilized the binomial lattice model. Additionally, we have employed a Monte Carlo simulation model to forecast both the probability for an event of default in the valuation analysis which would result in a mandatory prepayment of the outstanding principal and accrued and unpaid interest and the probability of the issuance of Common Shares under the Purchase Agreement to determine the estimated proceeds to be paid to the Lender along with a mandatory prepayment premium of 10%.

Recently Issued and Adopted Accounting Standards

A discussion of recent accounting pronouncements is included in Note 2 to our audited consolidated financial statements included elsewhere in this Form 10-K.

JOBS Act Accounting Election

In April 2012, the JOBS Act was enacted. Section 107 of the JOBS Act provides that an "emerging growth company" may take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. Therefore, as an emerging growth company we can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected to avail ourselves of this extended transition period and, as a result, we will not adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies. In addition, as an emerging growth company, we may take advantage of certain reduced disclosure and other requirements that are otherwise applicable generally to public companies. D-Wave Quantum will take advantage of these exemptions until such time that it is no longer an emerging growth company. D-Wave Quantum will cease to be an emerging growth company on the date that is the earliest of (i) the last day of the fiscal year following the fifth anniversary of the date of the first sale of common equity securities pursuant to an effective registration statement; (ii) the last day of the fiscal year in which its total annual gross revenue is equal to or more than \$1.235 billion; (iii) the date on which it has issued more than \$1.0 billion in nonconvertible debt during the previous three years; or (iv) the date on which it is deemed to be a large accelerated filer under the rules of the SEC.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Not applicable to Smaller Reporting Companies.

Item 8. Financial Statements and Supplementary Data

Reference is made to the financial statements, the notes thereto, and the report thereon, commencing on page 107 of this report, which financial statements, notes, and report are incorporated herein by reference.

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

On June 7, 2023, PricewaterhouseCoopers LLP (Canada) (“PwC”) notified the Company of its decision to decline to stand for re-election as the independent registered public accounting firm of the Company. Although PwC declined to stand for re-election, it maintained its relationship with the Company for the review of the Company’s Quarterly Report on Form 10-Q for the quarterly period ending June 30, 2023 (the “10-Q”). On August 10, 2023, the Company filed the 10-Q. As a result, PwC’s term as the Company’s independent registered public accounting firm ended.

PwC’s reports on the financial statements for the fiscal years ended December 31, 2022 and 2021 contained no adverse opinion or disclaimer of opinion and were not qualified or modified as to uncertainty, audit scope, or accounting principles, except that PwC’s report for the fiscal years ended December 31, 2022 and 2021 contained a separate paragraph that stated the Company has incurred net losses and negative cash flows from operating activities and has a negative working capital that raise substantial doubt about the Company’s ability to continue as a going concern. During the fiscal years ended December 31, 2022 and 2021, and in the subsequent interim period through August 10, 2023, there were no disagreements with PwC on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which if not resolved to PwC’s satisfaction, would have caused PwC to make reference to the subject matter of the disagreement in connection with PwC’s report. Aside from the identification of a material weakness in the Company’s internal controls over financial reporting during the fiscal year ended December 31, 2022 pertaining to the Company’s design and operation of controls related to its financial statement close process, there were no reportable events of the type described in Item 304(a)(1)(v) of Regulation S-K during the fiscal years ended December 31, 2022 and 2021 or in the subsequent interim period through August 10, 2023.

On August 24, 2023, the Company engaged Grant Thornton LLP (“Grant Thornton”) to serve as the Company’s independent registered public accounting firm for the fiscal year ending December 31, 2023 beginning with the fiscal third quarter ending September 30, 2023. The Audit Committee of the Board of Directors of the Company approved the selection of Grant Thornton as the Company’s independent registered public accounting firm for the fiscal year ending December 31, 2023 on August 23, 2023.

During the two fiscal years ended December 31, 2022 and 2021, and the subsequent interim period through the date of the filing of this Current Report on Form 8-K, the Company has not consulted with Grant Thornton regarding either (i) the application of accounting principles to a specified transaction, either completed or proposed; or the type of audit opinion that might be rendered on the Company’s consolidated financial statements, and neither a written report was provided to the Company nor was oral advice provided that Grant Thornton concluded was an important factor considered by the Company in reaching a decision as to the accounting, auditing or financial reporting issue; or (ii) any matter that was either the subject of a “disagreement,” as that term is defined in Item 304(a)(1)(iv) of Regulation S-K and the related instructions to Item 304 of Regulation S-K, or a “reportable event,” as that term is defined in Item 304(a)(i)(v) of Regulation S-K.

Item 9A. Controls and Procedures

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives.

Evaluation of Disclosure Controls and Procedures

In accordance with the Exchange Act Rules 13a-15(e) and 15d-15(e), we carried out an evaluation, under the supervision and with the participation of management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as of December 31, 2023. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, due to a material weakness in our internal control over financial reporting as described below, our disclosure controls and procedures were not effective as of the end of the period covered by this Form 10-K.

Material Weakness

Prior to the completion of the Merger on August 5, 2022, we were a private company with limited accounting personnel to adequately execute our accounting processes to address our internal control over financial reporting. In connection with the preparation and audit of financial statements of D-Wave Quantum Inc. as of and for the fiscal years ended December 31, 2023 and 2022, we identified a material weakness in our internal control over financial reporting. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. Specifically, a material weakness was identified in D-Wave's control environment related to D-Wave's financial statement close process: we lack sufficient accounting and financial reporting personnel with requisite knowledge and experience in the application of complex areas of GAAP and SEC rules to facilitate accurate and timely financial reporting and we lack adequate accounting personnel to perform sufficient review over certain areas including non-routine revenue transactions, equity, government assistance, merger accounting, derivatives, taxes, deferred revenue, accounts receivable, stock-based compensation, prepaid expenses, lease accounting, financial statement disclosures, and classification within the consolidated statements of cash flow.

This material weakness resulted in errors in the unaudited condensed consolidated financial statements for the three and nine months ended September 30, 2022 that were restated on Form 10-Q/A (the "Restatement"), as well as the errors that resulted in the restatement of the annual periods ended December 31, 2022, 2021, and 2020 on Form 10-K/A and the interim periods ended September 30, 2023, June 30, 2023, and March 31, 2023 on Form 10-Q/A.

Remediation Efforts on Previously Reported Material Weakness

The Company is devoting significant time, attention, and resources to remediating the above material weakness. The Company has undertaken and continues to execute the following steps intended to remediate the material weakness described above and strengthen our internal controls, specifically:

- The Company hired experienced finance and accounting executives in the positions of SVP Finance, VP Corporate Controller, and Senior Manager of Financial Reporting and Technical Accounting.
- The Company continues to develop accounting personnel with a level of accounting knowledge and experience in the application of US GAAP commensurate with our financial reporting requirements and the complexity of our operations and transactions, including providing adequate training and supervision to our staff.
- The Company has engaged external specialists as needed to provide assistance in accounting for significant, non-routine or complex transactions.
- The Company has engaged external consultants to assist the Company in designing, implementing, and monitoring an appropriate system of internal control.

The Company has made significant progress in addressing the previously identified material weakness, however the material weakness will not be considered remediated until our remediation plan has been fully implemented, the applicable controls have operated for a sufficient period of time, and we have concluded, through testing, that the newly implemented and enhanced controls have been designed and operating effectively for a sufficient period of time.

Management's Report on Internal Control over Financial Reporting

The Company's management, under the supervision and with the participation of its principal executive officer and principal financial officer and effected by its board of directors, is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13(a)-15(f) or 15(d)-15(f) under the Securities Exchange Act of 1934, as amended. The Company's internal control system is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States.

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

Under the supervision and with the participation of the Company's principal executive officer and principal financial officer, management conducted an evaluation of the effectiveness of the Company's internal control over financial reporting as of December 31, 2023 using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in Internal Control - Integrated Framework (2013 framework). Based on this assessment, management concluded that as of December 31, 2023, its internal control over financial reporting was not effective due to material weakness as described above. A material weakness is a deficiency, or a combination of control deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the Company's annual or interim financial statements will not be prevented or detected on a timely basis.

Changes in Internal Control Over Financial Reporting

Other than the ongoing remediation to address the material weakness described above, there was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act), during the year ended December 31, 2023 that has materially affected, or is 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.

Identification of Directors

The following tables set forth information on our directors as of the filing of this Annual Report on Form 10-K. Our Board of Directors (“Board”) is divided into three separate classes, as nearly equal in number as possible, with one class being elected each year to serve a staggered three year-term. Class I directors are serving until the 2026 Annual Meeting of Stockholders, Class II directors are serving until the 2024 Annual Meeting of Stockholders and Class III directors are serving until the 2025 Annual Meeting of Stockholders.”

Name	Age(*)	Position with D-Wave Quantum	Served as a Director Since	Class
Alan Baratz	69	President, Chief Executive Officer and Director	January 14, 2020	I
Ziv Ehrenfeld ^{(1), (2)}	49	Director	April 4, 2023	I
Emil Michael ⁽³⁾	51	Director	August 5, 2022	II
Amy Cappellanti-Wolf ⁽²⁾	59	Director	August 5, 2022	II
Philip Adam Smalley III ^{(1), (3)}	52	Director	April 13, 2023	II
Steven M. West ^{(1), (3)}	68	Chair	June 29, 2009	III
Kirstjen Nielsen ⁽²⁾	51	Director	January 10, 2023	III
Roger Biscay ⁽¹⁾	56	Director	August 5, 2022	III

(*) Age as of March 28, 2024.

(1) Member of the Audit Committee.

(2) Member of the Compensation Committee.

(3) Member of the Nominating and Governance Committee.

Business Experience of Our Directors

Alan Baratz

Dr. Baratz became the CEO of D-Wave Systems in January 2020 and the Company in August 2022. Previously, as Executive Vice President of R&D and Chief Product Officer of D-Wave Systems from August 2018 to December 2019, he drove the development, delivery, and support of all of the company’s products, technologies, and applications. Dr. Baratz also acted as Senior Vice President of Software & Applications of D-Wave Systems from August 2017 to August 2018. He has over 25 years of experience in product development and bringing new products to market at leading technology companies and software startups. As the first president of JavaSoft at Sun Microsystems, Dr. Baratz oversaw the growth and adoption of the Java platform from its infancy to a robust platform supporting mission-critical applications in nearly 80 percent of Fortune 1000 companies. He has also held executive positions at Symphony, Avaya, Cisco, and IBM. He served as CEO and president of Versata, Zaplet, and NeoPath Networks, and as a managing director at Warburg Pincus LLC. Dr. Baratz also served on the board of Versata from 2003 to 2005 and the board of TRW Inc. in 2002. Dr. Baratz holds a doctorate in computer science from the Massachusetts Institute of Technology.

We believe Dr. Baratz is qualified to serve on our Board of Directors because of his extensive knowledge of the Company; past public company board experience; and significant experience in product development and, specifically, bringing new products to market.

Ziv Ehrenfeld

Mr. Ehrenfeld has been a member of our Board of Directors since April 2023. Since 2020, he has served as a Managing Director on the private equity team for PSP Investments. In this role, he heads Strategy and Active Management globally in addition to overseeing various sponsor relationships. He also serves on the boards of several privately held companies with significant operations and scale. Prior to this role, from 2015 to 2020, Mr. Ehrenfeld was a member of PSP Investments’ private debt investment arm, where he developed a new asset class culminating in ~C\$26 billion in net AUM as of March 31, 2023.

Prior to joining PSP Investments, Mr. Ehrenfeld was a Director in Leveraged Finance at Barclays from 2008 to 2015, where he arranged leveraged loan and high-yield bond financings for sponsor and corporate clients. Mr. Ehrenfeld started his career practicing law at the law firm of Fischer Behar Chen Well Orion & Co. and holds an LL.B. Bachelor of Laws and a BA in Economics from Tel Aviv University and an MBA from Wharton School of the University of Pennsylvania.

We believe Mr. Ehrenfeld is qualified to serve on our Board of Directors because of his significant private equity, credit investment, operational management, legal and business development experience.

Emil Michael

Mr. Michael has served as a member of our Board of Directors since August 2022. In 2023, Mr. Michael was appointed to serve as a director for Rent the Runway (Nasdaq: RENT) and GoPuff. He previously served as the chairman of the board of directors and Chief Executive Officer of DPCM. Mr. Michael is one of Silicon Valley's most highly-regarded business executives having built three successful companies including Tellme Networks (sold to Microsoft in 2007), Klout (sold to Lithium Technologies in 2014) and Uber. Mr. Michael has extensive experience identifying high-growth, tech-enabled businesses with his investments spanning a broad range of companies including Brex, GoPuff, Revolut, SpaceX, and Stripe. Mr. Michael has been the Chairman and CEO of M8 Enterprises LLC, a technology consulting firm, since January 2018. During his tenure as Chief Business Officer of Uber from July 2013 to June 2017, Mr. Michael led Uber's efforts in China and Russia, which resulted in substantial market value creation. Mr. Michael played a pivotal role in raising nearly \$15 billion dollars in capital from investors globally and led the merger of Uber's China operations with a key competitor in China, Didi Chixing. Additionally, he led the efforts to strike partnerships globally with companies such as American Express, AT&T, Daimler, Softbank, Tata Motors, and Toyota. Mr. Michael is also responsible for creating UberMilitary, a program at Uber for military veterans and their families. Prior to Uber, Mr. Michael served as Chief Operating Officer of Klout, where he played a pivotal role in growing the social media analytics company. Klout ultimately sold to Lithium Technologies for \$200 million in 2014. Before joining Klout, Mr. Michael served as a White House Fellow working for the Secretary of Defense as a Special Assistant. During his tenure at the Pentagon, he ran projects in Afghanistan, Iraq and Pakistan as well as a department-wide budget cutting effort aimed at reducing overhead and bureaucracy. Mr. Michael was also part of the founding team of Tellme Networks, a pioneer in speech recognition technology and systems, that is highly regarded for weathering the technology bust of 2000 and for building a sustainable and profitable business. He also led Tellme Networks through its \$800 million sale to Microsoft in 2007. Additionally, Mr. Michael has been a leadership coach and mentor to dozens of young CEOs over the years, giving him extensive exposure to early-stage companies, technologies, and trends. He also serves as an advisor or investor in over 20 start-ups around the world, furthering his commitment to helping the next generation of entrepreneurs build and scale. He started his career at Goldman Sachs, where he was an Associate in the Investment Banking Division for a short period. Mr. Michael received his B.A. from Harvard University and his J.D. from Stanford Law School.

We believe that Mr. Michael is qualified to serve on our Board of Directors due to his experience as an entrepreneur along with his success in scaling tech-enabled businesses.

Amy Cappellanti-Wolf

Ms. Cappellanti-Wolf is an accomplished senior human resource professional, business transformer and executive coach with expertise in working with startups to Fortune 500 enterprises. Her management roles span high-tech (Cohesity, Symantec, Silver Spring Networks, Cisco, Sun Microsystems), entertainment (The Walt Disney Company), and consumer goods (Frito-Lay). She most recently served as Chief Human Resources Officer and Real Estate Leader of Cohesity, a data security and management company. From January 2014 to February 2020, Ms. Cappellanti-Wolf was the Chief Human Resources Officer and Real Estate Leader for Symantec, a cyber security provider. In addition to serving on the D-Wave Board and compensation committee, she also serves on the board of directors of Softchoice, a North American provider of technology solutions and managed services. Ms. Cappellanti-Wolf serves as the chair of the compensation committee and is a member of the nomination and governance committee at Softchoice. Ms. Cappellanti-Wolf is also a member on the board of Betterworks, a continuous performance management platform company, and Pivotal, a non-profit that focuses on foster youth education and employment. Ms. Cappellanti-Wolf holds an M.S. in Industrial and Labor Relations and a B.S. in Journalism and Public Relations from West Virginia University.

We believe Ms. Cappellanti-Wolf is qualified to serve on our Board of Directors due to her experience as a senior human resources professional at numerous high-tech and highly regarded companies.

Philip Adam Smalley III

Mr. Smalley is a Managing Director at PSP. He joined PSP Investments in May 2016 in the Credit Investments group and was responsible for originating and executing non-investment grade credit investment transactions for financial sponsor-backed companies, primarily in North America. Since 2020, Mr. Smalley has led the Complementary Portfolio within the Chief Investment Officer Group. The Complementary Portfolio focuses on investments that are outside of the mandate of existing PSP asset classes but are beneficial to the total fund. The Complementary Portfolio includes knowledge-driven, alternative risk premium and cross-asset class strategies. Prior to joining PSP, Mr. Smalley held various portfolio management and research roles at organizations that managed institutional and retail capital focused on the high yield and leveraged loan asset classes. Mr. Smalley began his career in finance at Lehman Brothers in New York in 1999. Mr. Smalley holds a BS in Accounting from Bucknell University and an MBA in Finance and Economics from Columbia Business School.

We believe Mr. Smalley is qualified to serve on our Board of Directors due to his significant investing, accounting, business development, and operational management experience.

Steven M. West

Mr. West is a 40-year veteran of the information technology and media marketplace. He is the founder and has been a managing partner of Emerging Company Partners LLC, a technology-consulting firm located in Incline Village, Nevada, since February 2004. Mr. West has held executive leadership positions in both large and early-stage information technology companies located in North America, Asia and Europe. His leadership positions have included CEO of Entera, an Internet content delivery firm (acquired by Blue Coat Systems, Inc.), President and CEO of Hitachi Data Systems in Santa Clara, California and Group Executive of EDS in Plano, Texas. As a partner in Emerging Company Partners LLC, Mr. West has completed consulting engagements with numerous companies specializing in early-stage firms. Mr. West's public board experience includes Cisco Systems from 1996 to 2019. As a board director of Cisco, he was audit committee chair and a member of the finance committee. He also served as a board member of Autodesk from 2008 to 2018 and was a member of the audit committee and chair of their compensation committee. He has also served on the boards of Delta-Q Technologies and Bycast Inc. Currently, Mr. West is a licensed Broadcast Engineer by the Federal Communications Commission. He also is an active member in the Society of Broadcast Engineers (SBE) and the Institute of Electrical and Electronics Engineers (IEEE).

We believe that Mr. West is qualified to serve on our Board of Directors due to his extensive experience leading technology companies and service as a public company board member.

Kirstjen Nielsen

Sec. Nielsen is a seasoned expert in homeland and national security. She has served as President and Founder of Lighthouse Strategies, a national security consultancy focused on emerging technology and emerging threats, since 2019. From 2017 to 2019, Sec. Nielsen served as the sixth Secretary of the U.S. Department of Homeland Security to lead the 240,000 law enforcement, civilian, and military employees of the third largest cabinet agency and oversee development and expenditure of its \$70 billion in total annual budget authority. As an attorney, public servant, successful entrepreneur, subject matter expert, and regular public speaker, she brings over two decades of domestic and international experience in the homeland and national security sectors and has advised governments, private sector companies, international organizations, and NGOs throughout her impressive career. She continues to promote government, nonprofit, and private sector security collaboration. Sec. Nielsen serves on the Board of Advisors for the Global and National Security Institute at the University of South Florida, as a Board Member of the Global Resilience Federation and the National Defense University Foundation Board, and as an Editorial Board member of Homeland Security Today. She has co-chaired working groups on cyber and critical infrastructure security for the bipartisan Homeland Security Experts Group. Sec. Nielsen also sits on the Advisory Boards of several emerging technology companies and charities. She holds a B.S. in Foreign Service from Georgetown University and a J.D. from the University of Virginia School of Law.

We believe Sec. Nielsen is qualified to serve on our Board of Directors because of her significant experience in the homeland and national security sectors and role as a key advisor to governments, private sector companies, international organizations, and NGOs.

Roger Biscay

Mr. Biscay holds over 20 years of diverse leadership experience driving strategy, organizational planning, financial management, and compliance across high-tech public and private companies and non-profit organizations. Mr. Biscay has served as Senior Vice President and Treasurer of Cisco Systems, which designs and sells a broad range of technologies, since April 2017 where his responsibilities include corporate finance, investments, cash management, foreign exchange, risk transfer, safety, security and business resiliency. Mr. Biscay has also served on the board of directors of Wasabi Technologies since August 2021, including as a member of the Audit Committee and Chair of the Nomination, Governance & Sustainability Committee. Mr. Biscay has also held senior financial markets positions in the areas of fixed income, equity capital markets and foreign exchange with major global financial institutions including the Royal Bank of Canada, Banque Paribas and Lehman Brothers in New York, London, Paris and San Francisco. Mr. Biscay is a graduate of the University of San Francisco where he received both his MBA and BS in Finance.

We believe Mr. Biscay is qualified to serve on our Board of Directors because of his significant financial management and organizational planning experience across numerous high-tech companies.

Identification of Executive Officers

Name	Age^(*)	Current Position
Alan Baratz	69	President, Chief Executive Officer and Director
John M. Markovich	67	Chief Financial Officer
Diane Nguyen	39	General Counsel

*Age as of March 28, 2024

Business Experience of Our Executive Officers

Alan Baratz

See biography on page 72 of this Annual Report on Form 10-K.

John M. Markovich

Mr. Markovich has served as the Company's Chief Financial Officer since August 2022 and previously served as D-Wave Systems' Chief Financial Officer since August 2021. Mr. Markovich is a strategic financial leader with nearly thirty years of executive financial management experience working with rapidly growing private and public technology companies across all stages of development. He has directed the finance, accounting, tax, treasury, M&A, legal, operations, customer service, IR, HR, and IT functions for companies ranging from privately held pre-revenue startups to a NYSE-listed Fortune 500 multi-national company with over \$1.2 billion in annual revenue. During his career, he has negotiated and closed over 150 debt, equity, M&A, and joint venture transactions exceeding \$2.5 billion in value; over a dozen private placements; nearly a dozen M&A transactions; and several international joint ventures. From August 2020 to July 2021, Mr. Markovich had his own consulting firm where he advised early-stage technology companies on various financial and strategic matters. From June 2019 to July 2020, Mr. Markovich served as Chief Financial Officer of XANT, Inc., a privately held SaaS company with an AI-powered sales enablement platform. From August 2016 to May 2019, he served as Chief Financial Officer of OmniGuide Holdings, Inc. a private equity-backed multinational medical device manufacturer. Previously, Mr. Markovich held Chief Financial positions at three public companies including Optical Coating Laboratories, Inc., Tickets.com Inc., and Emcore Corp., and several private technology companies including Auto-By-Tel.com, Inc., Energy Innovations, Inc., Veritone, Inc. and XANT, Inc. Mr. Markovich holds a BS in Business from Miami University and an MBA from the Michigan State Graduate School of Business.

Diane Nguyen

Diane Nguyen has served as the Company's General Counsel and Corporate Secretary since May 1, 2023 and previously served as Vice-President, Legal from July 2021 through April 2023. Ms. Nguyen oversees all legal aspects of D-Wave's day-to-day operations and the proper governance of the company, and leads the Intellectual Property team in the development and protection of D-Wave's world-class patent portfolio. Ms. Nguyen holds over 10 years of broad-based legal experience, including negotiating commercial agreements, corporate governance, business financing, intellectual property, and risk assessment. She joined D-Wave in 2018. From 2012 to 2017, she practiced corporate, commercial and intellectual property law at Morency, Société d'avocats, LLP. She also served on the Board of the BC SPCA. Ms. Nguyen is a member of the bars of British Columbia and Quebec, an Authorized House Counsel with the Florida Bar and is a registered trademark agent. She holds a Master's degree in Business Law from the University of Montreal.

Identification of Certain Significant Employees

Not applicable.

Family Relationships

There are no family relationships among our executive officers and directors.

Other Directorships

The directorships currently held, and held during the past five years, by each of our directors in any company with a class of securities registered pursuant to Section 12 of the Securities Exchange Act of 1934, as amended, or subject to Section 15 of such Act or any company registered as an investment company under the Investment Company Act of 1940, as amended, are set forth in Part III, Item 10(a), "Identification of Directors" of this Annual Report on Form 10-K.

Involvement in Certain Legal Proceedings

To the best of our knowledge, none of our directors or executive officers that served during the year ended December 31, 2023 or currently has been involved during the past ten years in any legal proceedings required to be disclosed pursuant to Item 401(f) of Regulation S-K.

Committees of the Board

Audit Committee

The primary purpose of the Audit Committee is to discharge the responsibilities of the Board of Directors with respect to the corporate accounting and financial reporting processes, systems of internal control and financial statement audits, and to oversee the independent registered public accounting firm. Specific responsibilities of the Audit Committee include:

- helping the Board of Directors oversee corporate accounting and financial reporting processes;
- overseeing compliance with legal and regulatory requirements;
- managing the selection, engagement, qualifications, independence and performance of a qualified firm to serve as the independent registered public accounting firm to audit the financial statements;
- discussing the scope and results of the audit with the independent registered public accounting firm, and reviewing, with management and the independent accountants, the interim and year-end operating results;
- developing procedures for employees to submit concerns anonymously about questionable accounting or audit matters;
- reviewing related person transactions;
- obtaining and reviewing a report by the independent registered public accounting firm at least annually that describes internal quality control procedures, any material issues with such procedures and any steps taken to deal with such issues when required by applicable law;
- approving or, as permitted, pre-approving, audit and permissible non-audit services to be performed by the independent registered public accounting firm; and
- monitoring compliance with the Company's Code of Conduct, and oversee, review and discuss with management the implementation and effectiveness of the Company's compliance and ethics programs.

The Audit Committee charter is available on our website at <https://ir.dwavesys.com>. Our Audit Committee consists of Roger Biscay, Ziv Ehrenfeld, Philip Adam Smalley III, and Steven M. West. Our Board of Directors has determined that all members are independent under NYSE listing standards and Rule 10A-3(b)(1) of the Exchange Act. The Chair of the Audit Committee is Roger Biscay. Our Board of Directors has determined that Roger Biscay is an “audit committee financial expert” within the meaning of SEC regulations and NYSE listing standards. Our Board of Directors has also determined that each member of the Audit Committee can read and understand fundamental financial statements, in accordance with applicable requirements, and all members of the Audit Committee are “financially literate” in accordance with NYSE’s listing standards.

The Audit Committee met 9 times in 2023.

Compensation Committee

The primary purpose of the Compensation Committee is to discharge the responsibilities of the Board of Directors in overseeing the compensation policies, plans and programs and to review and determine the compensation to be paid to executive officers and other senior management, as appropriate. Specific responsibilities of the compensation committee include:

reviewing and approving the compensation of the chief executive officer, other executive officers and senior management;

administering the equity incentive plans and other benefit programs;

reviewing, adopting, amending and terminating all incentive compensation and equity plans, bonus plans, change-of-control protections and any other compensatory arrangements for the executive officers and other senior management; and

reviewing and establishing general policies relating to compensation and benefits of the employees, including the overall compensation philosophy and

reviewing and making recommendations to the Board with respect to executive officer and director indemnification and insurance matters.

Pursuant to the Compensation Committee’s charter, which is available on our website at <https://ir.dwavesys.com>, the Compensation Committee has the authority, in its sole discretion, to retain or terminate compensation consultants, independent legal counsel and other advisors to assist in carrying out its responsibilities and shall be directly responsible for overseeing the work of such advisors.

During 2023, management engaged Compensia, Inc. (“*Compensia*”) as its independent compensation consultant. As requested by management, Compensia’s services included executive compensation advice.

The Compensation Committee may form and delegate authority under its charter to subcommittees from time to time as it sees fit, provided that the subcommittees are composed entirely of directors who satisfy the applicable independence requirements of the NYSE.

Our Compensation Committee consists of Amy Cappellanti-Wolf, Kirstjen Nielsen and Ziv Ehrenfeld. The Chair of our Compensation Committee is Amy Cappellanti-Wolf. Our Board of Directors has determined that each member of the Compensation Committee is independent under the NYSE listing standards and a “non-employee director” as defined in Rule 16b-3 promulgated under the Exchange Act.

The Compensation Committee met four (4) times in 2023.

Procedures for Stockholder Nominations to the Board of Directors

No material changes to the procedures for nominating directors by our stockholders were made since our disclosure in the 2023 definitive proxy statement for our 2023 annual meeting of stockholders filed with the Securities and Exchange Commission on April 24, 2023.

Code of Conduct and Committee Charters

We have adopted a Code of Conduct, applicable to all of the Company’s employees, executive officers and directors. The Code of Conduct is available at the investors section of the Company’s website at <https://ir.dwavesys.com>. Any amendments to the Code of Conduct, or any waivers of its requirements, are expected to be disclosed on the Company’s website to the extent required by applicable rules and exchange requirements. The reference to the Company’s website address does not constitute incorporation by reference of the information contained at or available through the Company’s website, and you should not consider it to be a part of this proxy statement.

Our Board adopted charters for the Audit Committee, Compensation Committee, and Nominating and Governance Committee of the Board describing the authority and responsibilities delegated to each committee.

We post on our website <https://ir.dwavesys.com> the charters of each of our board committees and our Code of Conduct, and all disclosures that are required by law concerning any amendments or waivers thereto applicable to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions; and any other corporate governance materials contemplated by the Nasdaq listing requirements and SEC regulations. These documents are also available in print, without charge, to any stockholder requesting a copy in writing from our Secretary at our executive offices set forth in this Annual Report on Form 10-K.

Delinquent Section 16(a) Reports

Section 16(a) of the Exchange Act and the rules of the SEC require our directors, executive officers and persons who own more than 10% of our Common Shares to file reports of their ownership and changes in ownership of our Common Shares with the SEC. As a practical matter, we assist our directors and executive officers by monitoring transactions and completing and filing Section 16 reports on their behalf. Based solely on our review of the reports filed during 2023 and related written representations, we determined that no director, executive officer, or beneficial owner of more than 10% of our Common Shares failed to file a report on a timely basis during 2023, except for one late Form 4 filing filed by the Company on behalf of Emil Michael to report two transactions.

Item 11. Executive Compensation

Summary Compensation Table

The following table provides the compensation paid to our principal executive officer and other executive officers whose total compensation exceeded \$100,000 for the fiscal years ended December 31, 2023 and 2022 (the “NEOs”).

Name and Principal Position	Year	Salary (\$)	Stock Awards (\$) ⁽¹⁾	Option Awards (\$) ⁽²⁾	Non-Equity Incentive Plan Compensation (\$) ⁽³⁾	All Other Compensation (\$) ⁽⁴⁾	Total (\$)
Alan E. Baratz <i>President & Chief Executive Officer, Director</i>	2023	575,000	153,900	—	316,250	—	1,045,150
	2022	491,667	10,050,000	—	273,333	1,348	10,816,348
John M. Markovich <i>Chief Financial Officer</i>	2023	400,000	102,600	—	179,200	—	681,800
	2022	350,000	3,517,500	—	144,000	51	4,011,551
Diane Nguyen <i>General Counsel</i>	2023	255,000	43,790	—	86,400	—	385,190
	2022	N/A					

- (1) The amounts reported in this column reflect the grant date fair value of restricted share unit awards made under the 2022 Plan to the NEOs listed in this table, computed in accordance with FASB ASC Topic 718 for stock-based compensation transactions. Assumptions used in the calculation of these amounts are included in Note 12 to the accompanying audited consolidated financial statements.
- (2) The amounts reported in this column reflect the grant date fair value of stock option awards made under the 2022 Plan and 2020 Plan to the NEOs, computed in accordance with ASC 718 for stock-based compensation transactions. Assumptions used in the calculation of these amounts are included in Note 12 to the accompanying audited consolidated financial statements. These amounts do not reflect the actual economic value that will be realized by the NEO upon the vesting of the stock options, the exercise of the stock options, or the sale of the Common Shares underlying such stock options.
- (3) For 2023, the amounts reported in this column reflect annual cash incentive earned by each NEO determined by the Company’s Compensation Committee. For 2022, the amounts reported in this column reflect the annual bonus payable as determined by the Compensation Committee.
- (4) For 2023 and 2022, the amounts reported in this column represent life insurance premiums paid by D-Wave for the benefit of the NEOs and represent a reimbursement to Dr. Baratz for tax accounting expenses.

Outstanding Equity Awards at Fiscal Year End

The following table presents information regarding outstanding equity awards held by our NEOs as of December 31, 2023. All awards were granted pursuant to the 2020 Plan or the 2022 Plan. Following the Merger, each option of D-Wave Systems granted under the 2020 plan became exercisable at its original option exercise price for 0.8896570 Common Shares. See the section titled “—Equity Compensation Plan Information – 2020 Plan and 2022 Plan” below for additional information.

Name	Option Awards				Stock Awards		
	Number of Securities Underlying Unexercised Options (#) Exercisable ⁽¹⁾	Number of Securities Underlying Unexercised Options (#) Unexercisable ⁽¹⁾	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$) ⁽⁹⁾	
Alan E. Baratz	2,920,208	—	0.81	5/5/2030	1,550,000 ⁽⁶⁾	1,364,000	
John M. Markovich	938,390	562,996	(2)	0.82	8/20/2031	637,500 ⁽⁷⁾	561,000
Diane Nguyen	43,108	1,152	(3)	0.81	5/5/2030	178,672 ⁽⁸⁾	157,231
	7,601	1,517	(4)	0.81	11/17/2030		
	34,475	18,904	(5)	0.82	8/20/2031		

(1) Except as otherwise noted, these amounts represent Common Shares issuable upon exercise of previously granted options of D-Wave Systems, following the Merger.

(2) The remaining portion of the option vests in equal monthly installments on the 20th of each month through August 20, 2025.

(3) The remaining portion of the option vests in equal monthly installments on the 5th of each month through May 5, 2024.

(4) The remaining portion of the option vests in equal monthly installments on the 1st of each month through November 1, 2024.

(5) The remaining portion of the option vests in equal monthly installments on the 16th of each month through July 16, 2025.

(6) 500,000 of these restricted share units vest on second anniversary of the grant date of October 27, 2022. 750,000 of these restricted share units vest in equal tranches on the second and third anniversaries of the grant date of October 27, 2022. 300,000 of these restricted share units vest at a rate of 25% on the first anniversary of the grant date of March 27, 2023, with the remaining restricted share units vesting in twelve equal quarterly installments through March 27, 2027.

(7) 437,500 of these restricted share units vest in equal tranches on each of the second and third anniversaries of the grant date of October 27, 2022. 200,000 of these restricted shares units vest at a rate of 25% on the first anniversary of the grant date of March 27, 2023, with the remaining restricted share units vesting in twelve equal quarterly installments through March 27, 2027.

(8) 93,312 of these restricted share units vest in equal tranches on each of the second and third anniversaries of the grant date of October 13, 2022. 85,360 of these restricted shares units vest at a rate of 25% on the first anniversary of the grant date of March 27, 2023, with the remaining restricted share units vesting in twelve equal quarterly installments through March 27, 2027.

(9) The market value of these shares is based on the closing price of D-Wave Quantum on December 29, 2023 (\$0.88 per share).

Employment Arrangements with Named Executive Officers

Alan E. Baratz. In January 2020, D-Wave Commercial Inc. (“*D-Wave Commercial*”), a wholly-owned subsidiary of D-Wave, entered into an amended and restated employment agreement with Dr. Baratz which governs the current terms of his employment as D-Wave’s President and Chief Executive Officer. Dr. Baratz is eligible to participate in our management bonus plan, with a target bonus percentage of 50% of his base salary, based on achievement of corporate objectives under our corporate bonus plan and personal objectives set by our Board of Directors. For 2021, D-Wave Systems’ bonus plan achievement was based on objectives directed at providing stockholder value, with elements including product and technology development, financial metrics and customer sales, and taking into account both individual and company-wide performance. Dr. Baratz is also eligible to participate in D-Wave Systems’ standard employee benefit plans and programs for D-Wave Systems’ US-based employees, and is entitled to reimbursement of up to \$7,500 per year for reasonable tax accounting expenses. Dr. Baratz’s employment agreement also provided for a grant of options, which are no longer outstanding as a result of the D-Wave Systems 2020 recapitalization. Pursuant to his employment agreement, if Dr. Baratz’s employment is terminated by D-Wave Systems without cause, he is entitled to receive 12 months’ base salary as a severance payment. In addition, pursuant to Dr. Baratz’s option award agreements, (i) in the event of a change in control (as defined in the 2020 Plan), the portion of the option that is scheduled to vest in the immediately succeeding 24 months shall immediately vest, and the vesting date for the remaining unvested tranches of each outstanding option shall accelerate by 24 months, and (ii) in the event of his termination by D-Wave Systems without cause within the 12 month period following a change in control, the remaining unvested portion of his outstanding options shall fully vest. The completion of the Merger constituted a change in control for purposes of the 2020 Plan. The restrictive covenants in Dr. Baratz’s employment agreement include confidentiality, invention assignment and a one-year non-solicitation of employees.

On October 27, 2022, D-Wave Commercial and Dr. Baratz entered into an amendment (the “*Amendment*”) to the amended and restated employment agreement discussed above, to reflect updates to Dr. Baratz’s compensation arrangements as approved by the Board of Directors upon the recommendation of the Compensation Committee of the Board of Directors. Pursuant to the Amendment, D-Wave increased Dr. Baratz’s annual base salary to \$575,000 per annum, effective as of September 1, 2022, and granted Dr. Baratz’s eligibility to participate in the D-Wave 2022 Bonus Plan and any future performance-based bonus plans that apply to D-Wave’s Chief Executive Officer. Effective as of September 1, 2022, Dr. Baratz’s on-target bonus under the D-Wave 2022 Bonus Plan is 100% of Dr. Baratz’s base salary, based on achievement of the corporate objectives under the plan, and personal objectives set by the Board of Directors. Certain changes were also made to the termination provisions of the amended and restated employment agreement to provide that, upon a termination without cause, D-Wave will provide twelve months’ base salary as a lump sum payment, twelve months base salary continuance, or a combination of the two, plus a lump sum target bonus payment, which will be equal to 100% of base salary, subject to certain conditions. In addition, subsequent to the close of the Merger, on October 27, 2022, Dr. Baratz was awarded a Long-Term Retention Award of 1,500,000 restricted stock units (“*RSUs*”), of which 50% vested on the first anniversary of the grant date and the remainder will vest in two, equal annual tranches over the remaining two years of the three-year vesting period). On October 27, 2022, Dr. Baratz was also awarded a Special Recognition Award of 1,000,000 RSUs, of which 50% vested on the first anniversary of the grant date and the remainder will vest on the second anniversary of the grant date. As part of the Company’s annual equity refresh program, Dr. Baratz was issued a grant of 300,000 RSUs, effective March 27, 2023, of which 25% vest of these RSUs on the first anniversary of the grant date on March 27, 2024, with the remaining RSUs vesting in twelve, equal quarterly installments through March 27, 2027. Pursuant to these RSU award agreements, in the event of Dr. Baratz’s termination without cause, the portion of the award that would have vested in the next 12 months will vest immediately. On October 23, 2023, Dr. Baratz acknowledged and accepted the Company’s clawback policy. In consideration of this acknowledgement, the Company offered, and Dr. Baratz accepted, to have all stock option award agreements previously entered into between Dr. Baratz and the Company, as well as all future stock option award agreements, amended to amend the exercise period applicable after the termination of his employment with D-Wave Commercial Inc. from a 90-day period to a one-year period after the termination date. On January 10, 2024, as payment of Dr. Baratz’s bonus under the D-Wave 2022 Bonus Plan for the year ended December 31, 2023, Dr. Baratz was awarded 213,232 stock options and 170,469 RSUs. Both grants were issued as fully vested as of the date of the grants.

John M. Markovich. In August 2021, D-Wave Systems entered into an employment agreement with Mr. Markovich which governs the current terms of his employment as D-Wave's Chief Financial Officer, as amended in September 2022. Mr. Markovich's current annual base salary for 2023 is \$400,000. Mr. Markovich is eligible to participate in any bonus plan that may be established for executive officers, with a target bonus percentage of 70% (effective September 1, 2022) of base salary, based on achievement of corporate objectives under our corporate bonus plan and personal objectives set by our Chief Executive Officer. For 2022, D-Wave's bonus plan achievement was based on objectives directed at providing stockholder value, with elements including product and technology development, financial metrics and customer sales, and taking into account both individual and company-wide performance. Mr. Markovich's employment agreement provides for a grant of 1,687,602 options (pursuant to the 2020 Plan), with vesting terms as described above in the Outstanding Equity Awards Table. In addition, subsequent to the close of the Merger, on October 27, 2022, Mr. Markovich was awarded an equity award of 875,000 RSUs, of 50% vested on the first anniversary of the grant date and the remainder will vest in two, equal annual tranches over the remaining two years of the three-year vesting period. As part of the Company's annual equity refresh program, Mr. Markovich was issued an RSU grant of 200,000 awards effective March 27, 2023, of which 25% of these RSUs vest on the first anniversary of the grant date on March 27, 2024, and the remaining RSUs vesting in twelve, equal quarterly installments through March 27, 2027. Mr. Markovich is eligible to participate in D-Wave's standard employee benefit plans and programs for D-Wave's U.S.-based employees. Pursuant to his employment agreement, if Mr. Markovich's employment is terminated by D-Wave without cause (as defined in his employment agreement), he is entitled to receive 12 months' base salary as a severance payment. In addition, pursuant to Mr. Markovich's equity award agreements, in the event of his termination by D-Wave without cause within the 12-month period following a change in control, the portion of his outstanding equity that would have vested in the next 24 months shall fully vest. On October 23, 2023, Mr. Markovich acknowledged and accepted the Company's clawback policy. In consideration of this acknowledgement, the Company offered, and Mr. Markovich accepted, to have all stock option award agreements previously entered into between Mr. Markovich and the Company, as well as all future stock option award agreements, amended to amend the exercise period applicable after the termination of his employment with D-Wave Commercial Inc. from a 90-day period to a one-year period after the termination date. On January 10, 2024, as payment of Mr. Markovich's bonus under the D-Wave 2022 Bonus Plan for the year ended December 31, 2023, Mr. Markovich was awarded 120,826 stock options and 96,661 RSUs. Both grants were issued as fully vested as of the date of the grants. The restrictive covenants in Mr. Markovich's employment agreement include confidentiality, invention assignment and a one-year non-solicitation of employees.

Diane Nguyen. In June 2018, D-Wave Systems entered into an employment agreement with Ms. Nguyen which was subsequently terminated in March 2022 when Ms. Nguyen was transferred to D-Wave Systems' subsidiary D-Wave Commercial with which she entered into a subsequent employment agreement. This employment agreement was subsequently amended on September 20, 2022 and on July 10, 2023 in connection with her promotion to General Counsel. Ms. Nguyen's annual base salary for 2023 was \$225,000 and was increased to \$270,000 effective May 1, 2023. Ms. Nguyen was eligible to participate in any bonus plan established for executive officers, with a target bonus percentage of 30% of base salary, based on the achievement of corporate objectives under our corporate bonus plan and personal objectives set by our Chief Executive Officer, until April 30, 2023. On May 1, 2023, Ms. Nguyen became eligible to participate in the new D-Wave Annual Incentive Plan (the "AIP") and any performance-based incentive plan in a future year that applies to permanent full-time employees of the Company who are at the level of SVP. Ms. Nguyen's on-target bonus under the AIP is 50% of her base salary pro-rated, based on achievement of the corporate objectives under the AIP and personal objectives as set by the CEO in relation to the AIP. For 2023, D-Wave's bonus achievement was based on individual and company-wide performance. Ms. Nguyen's employment agreement provided for a grant of options, which are no longer outstanding as a result of the D-Wave Systems 2020 recapitalization. In addition, subsequent to the close of the Merger, on October 13, 2022, Ms. Nguyen was awarded an equity award of 186,624 RSUs, of 50% vested on the first anniversary of the grant date and the remainder will vest in two, equal annual tranches over the remaining two years of the three-year vesting period. As part of the Company's annual equity refresh program, Ms. Nguyen was issued an RSU grant of 85,360 awards effective March 27, 2023, of which 25% of these RSUs vest on the first anniversary of the grant date on March 27, 2024, and the remaining RSUs vesting in twelve, equal quarterly installments through March 27, 2027. Ms. Nguyen is eligible to participate in D-Wave's standard employee benefit plans and programs for D-Wave's US-based employees. Pursuant to her employment agreement, if Ms. Nguyen's employment is terminated by D-Wave without cause (as defined in her employment agreement), she is entitled to receive 6 months' base salary as a severance payment. In addition, pursuant to Ms. Nguyen's equity award agreements, in the event of her termination by D-Wave without cause within the 12-month period following a change in control, the portion of her outstanding equity that would have vested in the next 12 months shall fully vest. On October 23, 2023, Ms. Nguyen acknowledged and accepted the Company's clawback policy. In consideration of this acknowledgement, the Company offered, and Ms. Nguyen accepted, to have all stock option award agreements previously entered into between Ms. Nguyen and the Company, as well as all future stock option award agreements, amended to amend the exercise period applicable after the termination of her employment with D-Wave Commercial Inc. from a 90-day period to a one-year period after the termination date. On January 10, 2024, as payment of Ms. Nguyen's bonus under the D-Wave 2022 Bonus Plan for the year ended December 31, 2023, Ms. Nguyen was awarded 58,255 stock options and 46,604 RSUs. Both grants were issued as fully vested as of the date of the grants. The restrictive covenants in Ms. Nguyen's employment agreement include confidentiality, invention assignment and a one-year non-solicitation of employees.

Non-Employee Director Compensation

The annual director compensation is determined by the Board of Directors of the Company at its first meeting following each annual meeting of stockholders and covers the period starting from such annual meeting and ending at the next annual meeting. Unless a director is restricted from receiving any director compensation, our director compensation policy provides that each of our non-employee directors receives an annual cash retainer of \$35,000, with our Chair of the Board of Directors, and the chairs of our Audit Committee and Compensation Committee each also receiving an additional annual cash retainer of \$30,000, \$20,000, and \$15,000 respectively. In addition, each member of the Audit Committee, Compensation Committee and Nominating & Governance Committee, other than the chair of each such committee, receives an additional annual cash retainer of \$8,000. We do not pay any meeting attendance fees. For the period from August 5, 2022 to June 8, 2023, the annual cash retainer was paid to each eligible director as a lump sum payment in 2022. For the period from June 8, 2023 to June 6, 2024, the annual cash retainer is being paid to each eligible director by four equal quarterly instalments. Each of our eligible non-employee directors also receives an annual equity-based grant of RSUs valued at \$140,000, which generally vests annually; however, the initial annual grants were prorated to reflect service from August 2022 through May 2023 (and which vested as of the date of the 2023 annual stockholder meeting). During 2023, D-Wave granted equity to its eligible non-employee directors as described below, such grants vesting on May 31 2024. New eligible non-employee directors also receive an initial grant of 7,500 RSUs, which will vest on May 31, 2024. Vesting is subject to continued service on the Board of Directors through the relevant vesting date. Commencing with compensation earned in respect of service following our Annual Meeting, our eligible non-employee directors will be permitted to elect to receive RSUs in lieu of cash compensation.

The following table sets forth information concerning the compensation of D-Wave’s non-employee directors for the year ended December 31, 2023.

Name	Fees Earned or Paid in Cash (\$)	Stock Awards (\$)⁽¹⁾	All Other Compensation (\$)	Total (\$)
Amy Cappellanti-Wolf	37,500	140,000	—	177,500
Emil Michael	32,250	140,000	—	172,250
Kirstjen Nielsen	—	—	—	—
Philip Adam Smalley III	—	—	—	—
Steven M. West	54,750	140,000	—	194,750
Roger Biscay	41,250	140,000	—	181,250
Ziv Ehrenfeld	—	—	—	—

(1) RSUs awarded and vest 100% on May 31, 2024.

The table below shows for each non-employee director who was serving, and held outstanding equity awards, as of December 31, 2023, the aggregate number of equity awards held by each such non-employee director as of such date.

Name	Shares Underlying Options Outstanding at Fiscal Year End (#)	Stock Awards Outstanding at Fiscal Year End (#) (1)
Amy Cappellanti-Wolf	-	75,675
Emil Michael	-	75,675
Kirstjen Nielsen	-	-
Philip Adam Smalley III	-	-
Steven M. West	311,973	75,675
Roger Biscay	-	75,675
Ziv Ehrenfeld	-	-

(1) RSUs awarded and vest 100% on May 31, 2024.

The Board of Directors and Nominating and Governance Committee expect to review director compensation periodically to ensure that director compensation remains competitive such that D-Wave is able to recruit and retain qualified directors.

Clawback Policy

The Board adopted a clawback policy (the “Clawback Policy”) in compliance with NYSE requirements. In general, the Clawback Policy requires the Company to recover, in a reasonably prompt manner, covered compensation erroneously awarded to a covered officer in the event of an accounting restatement, without regard to any taxes paid. “Erroneously Awarded Compensation” is generally the amount of incentive-based compensation received by the covered officer, during an applicable three fiscal year recovery period immediately preceding an accounting restatement trigger date (but on or after October 2, 2023), that exceeds the amount of incentive-based compensation that otherwise would have been received during such period had it been determined based on the relevant restated amounts. “Incentive-Based Compensation” is generally compensation that is granted, earned, or vested based wholly or in part upon the attainment of a financial reporting measure, and “financial reporting measure” includes stock price and total shareholder return. “Accounting Restatement” means any required accounting restatement to correct an error in previously issued financial statements that is material to the previously issued financial statements or that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period.

Under the Clawback Policy, the Company generally is not required to recover such excess compensation if the Compensation Committee has made a determination that recovery would be impracticable and (i) the Company has already attempted to recover such amount but the direct expense paid to a third party to assist in enforcing the Clawback Policy would exceed the amount to be recovered, (ii) recovery would violate applicable home country law that was adopted prior to November 28, 2022, or (iii) recovery would likely cause an otherwise tax-qualified retirement plan to fail to meet the requirements of the Internal Revenue Code of 1986, as amended (the "Internal Revenue Code" or "Code"). The Company may not indemnify any such covered officer against the loss of such recovered compensation.

Recovery of Erroneously Awarded Compensation

On January 30, 2024, the Audit Committee of the Board of Directors of the Company, after discussions with the Company's management and its current and former independent registered public accounting firms, determined that the Company's (i) audited financial statements included in the Company's Annual Reports on Form 10-K for the periods ended December 31, 2022, 2021, and 2020 (the "Audited Financial Statements"), filed with the SEC on April 18, 2023 and (ii) unaudited financial statements included in each of the Company's Quarterly Reports on Form 10-Q for the periods ending September 30, 2023, June 30, 2023, and March 31, 2023 (the "unaudited Financial Statements," and together with the Audited Financial Statements, the "Financial Statements"), filed with the SEC on November 9, 2023, August 10, 2023, and May 10, 2023, respectively, as well as the Registration Statements on Forms S-1 and S-4 (Registration Nos. 333-269732, 333-267126, 333-267124 and 333-263573) initially filed with the SEC on February 13, 2023, August 29, 2022, August 29, 2022, and March 15, 2022, respectively which include the Financial Statements (collectively, the "Affected Periods"), as well as the relevant portions of any communication which describe or are based on the Financial Statements, should no longer be relied upon. The Company has restated the Financial Statements for the Affected periods in amendments to the Form 10-K, the Q1 2023 Form 10-Q, the Q2 2023 Form 10-Q, and the Q3 2023 Form 10-Q, respectively (collectively, the "2023 Restatement"). The 2023 Restatement mainly impacts non-cash and non-operating components of other income (expense) and net loss on the consolidated statements of operations and research incentives receivable and loans payable on the consolidated balance sheets. The 2023 Restatement does not affect any of the Company's key business metrics or compliance with any financial covenants.

The 2023 Restatement does not have any impact on management's or other employees' compensation, as incentive compensation plans were based on the attainment of certain operating metrics and operational goals unaffected by the adjustments.

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

Beneficial Security Ownership Table

The following sets forth the beneficial ownership of the Company's Common Shares as of March 25, 2024 by:

- each person who is known to be the beneficial owner of more than 5% of the outstanding Common Shares;
- each of the Company's current named executive officers, directors and director nominees; and
- all current executive officers and directors of the Company as a group.

Beneficial ownership is determined according to the rules of the SEC, which generally provide that a person has beneficial ownership of a security if he, she or it possesses sole or shared voting or investment power over that security, including options and warrants that are currently exercisable or exercisable within 60 days of March 25, 2024.

The beneficial ownership of the Company is based on 161,682,124 Common Shares issued and outstanding as of March 25, 2024. In computing the number of Common Shares beneficially owned by a person and the percentage ownership of such person, all Common Shares issuable pursuant to (i) Warrants, (ii) D-Wave Options and (iii) D-Wave Warrants, in each case that are currently exercisable or exercisable within 60 days of March 25, 2024, are included. However, such shares are not deemed to be outstanding for the purpose of computing the percentage ownership of any other person. Other than Warrants, D-Wave Options and D-Wave Warrants exercisable within 60 days of March 25, 2024 by a particular holder, which are reflected as described above, the beneficial ownership information below assumes no exercises of such securities.

Unless otherwise indicated, we believe that all persons named in the table below have sole voting and investment power with respect to all Common Shares beneficially owned by them. To our knowledge, no Common Shares beneficially owned by any executive officer or director have been pledged as security.

The beneficial ownership information below excludes Common Shares reserved for issuance under the 2022 Plan or the ESPP, any Common Shares that may be sold under the Purchase Agreement subsequent to March 25, 2024, assumes that all Exchangeable Shares in the capital of D-Wave Quantum Technologies have been exchanged for Common Shares and assumes no exercise of the underwriters' option to purchase additional Common Shares.

Beneficial Owner	Number of Shares Beneficially Owned	Beneficial Ownership Percentage
<i>Directors and Executive Officers of D-Wave Quantum</i> ⁽¹⁾		
Alan Baratz ⁽²⁾	4,103,409	2.49%
John M. Markovich ⁽²⁾	1,585,947	*
Diane Nguyen ⁽²⁾	290,133	*
Steven M. West ⁽³⁾	390,653	*
Emil Michael ⁽⁴⁾	3,632,295	2.21%
Philip Adam Smalley III	—	*
Roger Biscay	36,521	*
Amy Cappellanti-Wolf	36,521	*
Kirstjen Nielsen	—	*
Ziv Ehrenfeld	—	*
All Directors and Executive Officers of D-Wave Quantum as a Group (10 individuals) ⁽⁵⁾	10,075,479	5.95%
<i>Five Percent Holders of D-Wave Quantum</i>		
PSP ⁽⁶⁾	59,431,311	36.76%

* Less than one percent.

- (1) Unless otherwise noted, the business address of each of the following entities or individuals is D-Wave Quantum Inc., 3033 Beta Avenue, Burnaby, British Columbia V5G 4M9, Canada.
- (2) Includes Common Shares underlying D-Wave Options.
- (3) Includes Common Shares held by Emerging Company Partners LLC, an entity controlled by Steven M. West and Common Shares underlying D-Wave Options.
- (4) Includes Common Shares of which each of Mr. Michael and the Emil Michael Living Trust dated 7/28/2017 (the “Trust”) is the record holder and 2,708,894 Common Shares underlying Warrants issued to the Sponsor in the Merger in exchange for Private Warrants and distributed to Mr. Michael on August 22, 2023, which Warrants were exercisable as of September 4, 2022. Mr. Michael is the trustee of the Trust, and, as such, has voting and dispositive power over the securities held by the Trust and may be deemed to have beneficial ownership of such securities. Mr. Michael disclaims beneficial ownership of such securities except to the extent of his pecuniary interest therein.
- (5) Includes Common Shares underlying D-Wave Options, Warrants and Exchangeable Shares.
- (6) Based on Schedule 13G filed on February 14, 2023 in which PSP reported that, as of December 31, 2022, it had sole voting power and sole dispositive power over 59,431,311 Common Shares and Common Shares underlying Exchangeable Shares. PSP is a Canadian Crown corporation with a share capital created by a special act of Legislature in Canada on September 14, 1999. All the shares of PSP are held by the President of Treasury Board on behalf of his Majesty in Right of Canada, in accordance with the Public Sector Pension Investment Board Act, S.C. 1999, c.34, as amended from time to time. Deborah K. Orida, the CEO of PSP, has authority to vote and dispose of the shares held by PSP. The business address for PSP is 1250 René-Lévesque Boulevard West, Suite 1400, Montréal, Québec, Canada H3B 5E9. On September 26, 2022, D-Wave Quantum and PSP entered into the PSP Side Letter Agreement (as described in the section entitled “Certain Relationships and Related Person Transactions).

Equity Compensation Plan Information

Equity-based compensation has been and will continue to be an important foundation in executive compensation packages as D-Wave believes it is important to maintain a strong link between executive incentives and the creation of stockholder value. D-Wave believes that performance and equity-based compensation can be an important component of the total executive compensation package for maximizing stockholder value while, at the same time, attracting, motivating and retaining high-quality executives. Following the Merger, the 2022 Plan, which is described below, became an important element of our compensation arrangements for our executives and directors. Our executives (including our NEOs) are also eligible to participate in the ESPP described below. Prior to the Merger, D-Wave Systems granted equity-

based compensation pursuant to its 2020 Plan, described below.

2022 Equity Incentive Plan ("2022 Plan")

The following summary describes the material terms of the 2022 Plan, which was adopted by the Company in connection with the Merger.

Administration. The Compensation Committee of our Board of Directors (or subcommittee thereof) administers the 2022 Plan. The Compensation Committee has the authority to determine the terms and conditions of any agreements evidencing any awards granted under the 2022 Plan and to adopt, alter and repeal rules, guidelines and practices relating to the 2022 Plan. The Compensation Committee has full discretion to administer and interpret the 2022 Plan and to adopt such rules, regulations and procedures as it deems necessary or advisable and to determine, among other things, the time or times at which the awards may be exercised and whether and under what circumstances an award may be exercised.

Eligibility. Any current or prospective employees, directors, officers, consultants or advisors of the Company who are selected by the compensation committee are eligible for awards under the 2022 Plan. The Compensation Committee has the sole and complete authority to determine who will be granted an award under the 2022 Plan.

Number of Shares Authorized. Pursuant to the 2022 Plan, we have reserved 16,965,849 Common Shares for issuance of awards to be granted thereunder, subject to an annual increase on January 1st of each year for a period of ten years commencing on January 1, 2023 and ending on (and including) January 1, 2032, in an amount equal to the lesser of (a) 5% of the fully-diluted number of Common Shares outstanding on December 31st of the immediately preceding calendar year (inclusive of the share reserve under the ESPP and the 2022 Plan (or any successor to either of the foregoing)) and (b) such smaller number of shares as is determined by our Board of Directors (the "*Share Pool*"). The number of shares that may be issued with respect to incentive stock options under the 2022 Plan is equal to three times the number of shares initially reserved in the Share Pool. The maximum grant date fair value of cash and equity awards that may be awarded to a non-employee director under the 2022 Plan during any one fiscal year, taken together with any cash fees paid to such non-employee director during such fiscal year, in respect of service as a member of the Board of Directors during such year will be \$750,000 (or, \$1,000,000 in the event such non-employee director is first appointed or elected to the Board of Directors during such fiscal year); provided that the foregoing limitation shall not apply to compensation approved by the other non-employee members of the Board of Directors to be provided to a non-employee member of the Board of Directors in respect of their service as an employee or consultant (including as an interim officer). Shares may be issued in connection with a merger or acquisition as permitted by, as applicable, the NYSE and its applicable rules and guidance, and such issuance will not reduce the number of shares available for issuance under the 2022 Plan. The following actions do not reduce the number of shares available for issuance under the 2022 Plan: (1) the expiration or termination of any portion of an award without the shares covered by such portion of the award having been issued, (2) the settlement of any portion of an award in cash, (3) the withholding of shares that would otherwise be issued by the Company to satisfy the exercise, strike or purchase price of an award; or (4) the withholding of shares that would otherwise be issued by the Company to satisfy a tax withholding obligation in connection with an award. The following shares will be added back and again become available for issuance under the 2022 Plan: (1) any shares that are forfeited back to or repurchased by the Company because of a failure to meet a contingency or condition required for the vesting of such shares; (2) any shares that are reacquired by the Company to satisfy the exercise, strike or purchase price of an award; and (3) any shares that are reacquired by the Company to satisfy a tax withholding obligation in connection with an award.

Change in Capitalization. If there is a change in our capitalization in the event of a stock or extraordinary cash dividend, recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, split-off, spin-off, combination, repurchase or exchange of Common Shares or other relevant change in capitalization (including a change in control, as defined in 2022 Plan) or applicable law or circumstances, such that the Compensation Committee determines that an adjustment to the terms of the 2022 Plan (or awards thereunder) is necessary or appropriate, then the Compensation Committee shall make adjustments in a manner that it deems equitable, including by: (i) adjusting the number of shares reserved for issuance under the 2022 Plan, the number of shares covered by awards then outstanding under the 2022 Plan, the limitations on awards under the 2022 Plan, the exercise price of outstanding options, the strike price of outstanding stock appreciation rights or any applicable performance measures or criteria; (ii) providing for a substitution or assumption of awards under the 2022 Plan; (iii) accelerating the delivery, vesting and/or exercisability of, lapse of restrictions and/or other conditions on, or termination of, awards under the 2022 Plan; (iv) providing for a period of time not exceeding ten (10) days for the exercise of awards under the 2022 Plan prior to the occurrence of such event; (v) cancelling any awards under the 2022 Plan in exchange for consideration equal to value of the underlying award; or (vi) such other equitable substitution or adjustments as the compensation committee may determine appropriate.

Awards Available for Grant. The Compensation Committee may grant awards of nonqualified stock options, incentive (qualified) stock options, stock appreciation rights (“SARs”), restricted stock awards, RSUs, other stock-based awards, other cash-based awards, deferred awards or any combination of the foregoing. Awards may be granted under the 2022 Plan in assumption of, or in substitution for, outstanding awards previously granted by an entity acquired by the Company or with which the Company combines, which are referred to herein as “Substitute Awards.”

Stock Options. The Compensation Committee is authorized to grant options to purchase Common Shares that are either “qualified,” meaning they are intended to satisfy the requirements of Section 422 of the Code for incentive stock options, or “nonqualified,” meaning they are not intended to satisfy the requirements of Section 422 of the Code. All options granted under the 2022 Plan shall be nonqualified unless the applicable award agreement expressly states that the option is intended to be an incentive stock option. Options granted under the 2022 Plan will be subject to the terms and conditions established by the Compensation Committee. Under the terms of the 2022 Plan, the exercise price of the options will not be less than the fair market value (or 110% of the fair market value in the case of a qualified option granted to a 10% shareholder) of our Common Shares at the time of grant (except with respect to Substitute Awards). Options granted under the 2022 Plan will be subject to such terms, including the exercise price and the conditions and timing of exercise, as may be determined by the Compensation Committee and specified in the applicable award agreement. The maximum term of an option granted under the 2022 Plan will be 10 years from the date of grant (or five years in the case of a qualified option granted to a 10% shareholder), provided that if the term of a nonqualified option would expire at a time when trading in Common Shares is prohibited by the Company’s insider trading policy, the option’s term may be extended automatically until the 30th day following the expiration of such prohibition (as long as such extension shall not violate Section 409A of the Code). Payment in respect of the exercise of an option may be made in cash, by check, by cash equivalent, or by such other method as the compensation committee may permit in its sole discretion, including: (i) by delivery of other property (including previously owned shares that are not subject to any pledge or other security interest) having a fair market value equal to the exercise price and all applicable required withholding taxes; (ii) if there is a public market for Common Shares at such time, by means of a broker-assisted cashless exercise mechanism; or (iii) by means of a “net exercise” procedure effected by withholding the minimum number of shares otherwise deliverable in respect of an option that are needed to pay the exercise price and all applicable required withholding taxes, based upon the fair market value of the withheld shares on the date of exercise. In all events of cashless or net exercise, any fractional Common Shares will be settled in cash.

Stock Appreciation Rights. The Compensation Committee is authorized to award SARs under the 2022 Plan. SARs will be subject to the terms and conditions established by the Compensation Committee. A SAR is a contractual right that allows a participant to receive, in the form of either cash, shares or any combination of cash and shares, the appreciation, if any, in the value of a share over a certain period of time. An option granted under the 2022 Plan may include SARs, and SARs may also be awarded to a participant independent of the grant of an option. SARs granted in connection with an option shall be subject to terms similar to the option corresponding to such SARs, including with respect to vesting and expiration. Except as otherwise provided by the Compensation Committee (in the case of Substitute Awards or SARs granted in tandem with previously granted options), the strike price per Common Share underlying each SAR shall not be less than 100% of the fair market value of such share, determined as of the date of grant and the maximum term of a SAR granted under the 2022 Plan will be 10 years from the date of grant; provided that if the term of a SAR would expire at a time when trading in Common Shares is prohibited by the Company’s insider trading policy, the SAR’s term may be extended automatically until the 30th day following the expiration of such prohibition (as long as such extension shall not violate Section 409A of the Code).

Restricted Stock. The Compensation Committee is authorized to grant restricted stock under the 2022 Plan, which will be subject to the terms and conditions established by the Compensation Committee. Restricted stock is Common Shares that are generally non-transferable and are subject to other restrictions determined by the Compensation Committee for a specified period. Any accumulated dividends will be payable at the same time that the underlying restricted stock vests.

Restricted Stock Unit Awards. The Compensation Committee is authorized to grant RSU awards, which will be subject to the terms and conditions established by the Compensation Committee. An RSU award, once vested, may be settled in a number of our Common Shares equal to the number of units earned, in cash equal to the fair market value of the number of Common Shares earned in respect of such RSU award or in a combination of the foregoing, at the election of the Compensation Committee. RSUs may be settled at the expiration of the period over which the units are to be earned or at a later date selected by the Compensation Committee. To the extent provided in an award agreement, the holder of outstanding RSUs shall be entitled to be credited with dividend equivalent payments upon the payment by us of dividends on Common Shares, which accumulated dividend equivalents shall be payable at the same time that the underlying RSUs are settled.

Other Stock-Based Awards and Other Cash-Based Awards. The Compensation Committee is authorized to grant awards of unrestricted shares of Common Shares, rights to receive grants of awards at a future date, other awards denominated in Common Shares, or awards that provide for cash payments based in whole or in part on the value of Common Shares under such terms and conditions as the Compensation Committee may determine and as set forth in the applicable award agreement.

Deferred Awards. The Compensation Committee is authorized, subject to limitations under applicable law, to grant to participants deferred awards, which may be a right to receive shares or cash under the 2022 Plan (either independently or as an element of or supplement to any other award under the 2022 Plan), including, as may be required by any applicable law or regulations or determined by the Compensation Committee, in lieu of any annual bonus, commission or retainer that may be payable to a participant under any applicable, bonus, commission or retainer plan or arrangement, under such terms and conditions as the Compensation Committee may determine and as set forth in the applicable award agreement.

Effect of a Change in Control. The following provisions shall apply only in the case an award agreement specifically provided that they will apply. Unless otherwise provided in an award agreement, or any applicable employment, consulting, change in control, severance or other agreement between us and a participant, in the event of a change in control (as defined in the 2022 Plan): (i) if the acquirer or successor company in such change in control has agreed to provide for the substitution, assumption, exchange or other continuation of awards, then, if the participant's employment with or service to the Company is terminated by the Company without cause (and other than due to death or disability) on or within 12 months following a change in control, then unless otherwise provided by the Committee, all options and SARs held by such participant shall become immediately exercisable with respect to 100% of the shares subject to such options and SARs, and the restricted period (and any other conditions) shall expire immediately with respect to 100% of the shares of restricted stock and RSUs and any other awards (other than another cash-based award) held by such participant (including a waiver of any applicable performance conditions); provided that if the vesting or exercisability of any award would otherwise be subject to the achievement of performance conditions, the portion of such award that shall become fully vested and immediately exercisable shall be based on the assumed achievement of actual or target performance as determined by the Compensation Committee; (ii) if the acquirer or successor company in such change in control has not agreed to provide for the substitution, assumption, exchange or other continuation of awards, then unless otherwise provided by the Compensation Committee, all options and SARs held by such participant shall become immediately exercisable with respect to 100% of the shares subject to such options and SARs, and the restricted period (and any other conditions) shall expire immediately with respect to 100% of the shares of restricted stock and RSUs and any other awards (other than another cash-based award) held by such participant (including a waiver of any applicable performance conditions); provided that if the vesting or exercisability of any award would otherwise be subject to the achievement of performance conditions, the portion of such award that shall become fully vested and immediately exercisable shall be based on the assumed achievement of actual or target performance as determined by the compensation committee; and (iii) in addition, the Compensation Committee may upon at least ten (10) days' advance notice to the affected participants, cancel any outstanding award and pay to the holders thereof, in cash, securities or other property (including of the acquiring or successor company), or any combination thereof, the value of such awards based upon the price per share received or to be received by other stockholders of the Company in the event (it being understood that any option or SAR having a per-share exercise or hurdle price equal to, or in excess of, the fair market value (as of the date specified by the compensation committee) of a share subject thereto may be canceled and terminated without any payment or consideration therefor).

Nontransferability. Each award may be exercised during the participant's lifetime by the participant or, if permissible under applicable law, by the participant's guardian or legal representative. No award may be assigned, alienated, pledged, attached, sold or otherwise transferred or encumbered by a participant other than by will or by the laws of descent and distribution unless the Compensation Committee permits the award to be transferred to a permitted transferee (as defined in the 2022 Plan).

Amendment. The 2022 Plan will have a term of 10 years. The Board of Directors may amend, suspend or terminate the 2022 Plan at any time, subject to shareholder approval if necessary to comply with any tax, exchange rules, or other applicable regulatory requirement. No amendment, suspension or termination will materially and adversely affect the rights of any participant or recipient of any award without the consent of the participant or recipient. The Compensation Committee may, to the extent consistent with the terms of any applicable award agreement, waive any conditions or rights under, amend any terms of, or alter, suspend, discontinue, cancel or terminate, any award theretofore granted or the associated award agreement, prospectively or retroactively; provided that any such waiver, amendment, alteration, suspension, discontinuance, cancellation or termination that would materially and adversely affect the rights of any participant with respect to any award theretofore granted will not to that extent be effective without the consent of the affected participant. Unless otherwise required by applicable law, no shareholder approval will be required for any of the following amendments: (i) reducing the exercise price of any option or the strike price of any SAR; (ii) cancelling any outstanding option and replacing it with a new option (with a lower exercise price) or cancelling any SAR and replacing with a new SAR (with a lower strike price) or, in each case, with another award or cash in a manner that would be treated as a repricing (for compensation disclosure or accounting purposes); (iii) taking any other action considered a repricing for purposes of the shareholder approval rules of the applicable securities exchange on which our Common Shares are listed; and (iv) cancelling any outstanding option or SAR that has a per-share exercise price or strike price (as applicable) at or above the fair market value of a Common Share on the date of cancellation and paying any consideration to the holder thereof.

Clawback/Forfeiture. Awards may be subject to clawback or forfeiture to the extent (i) the participant engaged in or engages in activity that is in conflict with or adverse to the interests of the Company, including fraud or conduct contributing to any financial restatements or irregularities; (ii) the participant violates a non-competition, non-solicitation, non-disparagement or non-disclosure covenant or agreement with the Company; (iii) the participant is terminated for Cause (as defined in the 2022 Plan); (iv) required by applicable law (including, without limitation, Section 304 of the Sarbanes-Oxley Act and Section 954 of the Dodd-Frank Wall Street Reform and Consumer Protection Act) and/or the rules and regulations of NYSE or other applicable securities exchange; or (v) if so required pursuant to a written policy adopted by the Company or the provisions of an award agreement. In addition, the Compensation Committee will have full authority to implement any policies and procedures necessary to comply with Section 10D of the Exchange Act and any rules promulgated thereunder and any other regulatory regimes.

2022 Employee Stock Purchase Plan (“ESPP”)

The following summary describes the material terms of the ESPP, which was adopted by the Company in connection with the Merger.

Administration. The Compensation Committee of our Board of Directors (or any person or institution selected by the Compensation Committee) will administer the ESPP. The ESPP is implemented through a series of offerings under which eligible employees are granted purchase rights to purchase Common Shares on specified dates during such offerings. Under the ESPP, the plan administrator has full discretion to administer and interpret the ESPP and to adopt such rules, regulations and procedures as it deems necessary or advisable and to determine, among other things, the duration, frequency, start date and end dates of offering periods. The ESPP includes two components: a 423 Component and a Non-423 Component. The Company intends that the 423 Component will qualify as options issued under an “employee stock purchase plan” as that term is defined in Section 423(b) of the Code. Except as otherwise provided in the ESPP or determined by our Board of Directors, the Non-423 Component will operate and be administered in the same manner as the 423 Component.

Eligibility. Generally, all regular employees, including executive officers, employed by the Company or one of the Company’s designated subsidiaries, will be eligible to participate in the ESPP and may contribute, normally through payroll deductions, an aggregate amount equal to their contribution for the purchase Common Shares under the ESPP. Unless otherwise determined by the plan administrator, Common Shares will be purchased for the accounts of employees participating in the ESPP at a price per share equal to not less than the lesser of (i) 85% of the fair market value of a Common Share on the first trading date of an offering or (ii) 85% of the fair market value of a Common Share on the date of purchase. The administrator may impose different eligibility requirements with respect to the Non-423 Component.

Number of Shares Authorized. Pursuant to the ESPP, we have reserved 8,036,455 Common Shares, subject to an annual increase on January 1st of each year for a period of ten years commencing on January 1, 2023 and ending on (and including) January 1, 2032, in an amount equal to the lesser of (a) 1% of the fully-diluted number of Common Shares outstanding on December 31st of the immediately preceding calendar year (inclusive of the share reserve under the ESPP and the 2022 Plan (or any successor to either of the foregoing)), (b) 1,607,291 shares and (c) such smaller number of shares as is determined by our board of directors. For the avoidance of doubt, up to the maximum number of shares reserve under the ESPP may be used to satisfy purchases of shares under the 423 Component of the ESPP and any remaining portion may be used to satisfy purchases of shares under the Non-423 Component.

Limitations. Employees may have to satisfy one or more of the following service requirements before participating in the 423 Component of the ESPP, as determined by the plan administrator, including: (i) being customarily employed for more than 20 hours per week; (ii) being customarily employed for more than five months per calendar year; or (iii) classified as an employee for tax purposes. No employee will be eligible for the grant of any purchase rights under the 423 Component of the ESPP if immediately after such rights are granted, such employee has voting power over 5% or more of our capital stock measured by vote or value pursuant to Section 424(d) of the Code.

Changes to Capital Structure. In the event that there occurs a change in the Company's capital structure through such actions as a stock split, merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or other similar equity restructuring transactions, the plan administrator will make appropriate adjustments to (i) the class(es) and maximum number of shares reserved under the ESPP, (ii) the class(es) and maximum number of shares by which the share reserve may increase automatically each year, (iii) the class(es) and maximum number of shares and purchase price applicable to all outstanding offerings and purchase rights and (iv) the class(es) and number of shares that are subject to purchase limits under ongoing offerings.

Corporate Transactions. In the event of a corporate transaction, as defined in the ESPP, any then-outstanding rights to purchase shares under the ESPP may be assumed, continued or substituted by any surviving or acquiring entity (or its parent company). If the surviving or acquiring entity (or its parent company) elects not to assume, continue or substitute such purchase rights, then each offering period in progress will be shortened and a new purchase date will be set by the Compensation Committee, and such purchase rights will terminate immediately.

ESPP Amendment or Termination. Our Board of Directors has the authority to amend or terminate the ESPP, provided that, except in certain circumstances, such amendment or termination may not materially and adversely affect any outstanding purchase rights without the holder's consent. The Company must obtain shareholder approval of any amendment to the ESPP to the extent required by applicable law or listing rules.

2020 Equity Incentive Plan ("2020 Plan")

The following summary describes the material terms of the 2020 Plan, which was adopted by the D-Wave Systems board of directors in 2020.

Purpose. The purpose of the 2020 Plan was to provide eligible participants an opportunity from time to time to acquire a proprietary interest in D-Wave Systems and to develop the interest of eligible participants in the growth and development of D-Wave Systems, providing an incentive to eligible participants to further the success of D-Wave Systems, attracting and retaining eligible participants, and rewarding eligible participants with the benefits associated with having a proprietary interest in D-Wave Systems. Employees, officers, directors and consultants of D-Wave Systems or its affiliates were eligible to participate in the 2020 Plan to the extent approved by the Compensation Committee of D-Wave or the Board of Directors of D-Wave.

Administration. The 2020 Plan is administered by the Board of Directors or the Compensation Committee. The Board of Directors or the Compensation Committee may issue rules and regulations for administration of the 2020 Plan. The Board of Directors or Compensation Committee, as applicable, has the authority to implement and carry out the 2020 Plan, including without limitation, the authority to determine the participants to whom awards will be granted; determine the type or types of awards to be granted under the 2020 Plan; determine the number of shares to be issuable pursuant to (or with respect to which payments, rights or other matters are to be calculated in connection with) awards; determine the terms and conditions of any award, determine whether, to what extent and under what circumstances awards may be settled or exercised in cash, shares, other awards, other property, net settlement, cashless exercise, broker-assisted cashless exercise or any combination thereof, or cancelled, forfeited or suspended, and the method or methods by which awards may be settled, exercised, cancelled, forfeited or suspended; determine whether, to what extent and under what circumstances cash, shares, other awards, other property and other amounts payable with respect to an award under the 2020 Plan shall be deferred either automatically or at the election of the holder thereof or of the Compensation Committee; interpret and administer the 2020 Plan; establish, amend, suspend or waive such rules and regulations and appoint such agents as it shall deem appropriate for the proper administration of the 2020 Plan; grant waivers, amend or modify an award, and correct any defect or reconcile any inconsistency with the 2020 Plan or an award; and make any other determination and take any other action that the Compensation Committee deems necessary or desirable for the administration of the 2020 Plan.

Grants of Awards. The Board of Directors may, at any time, subject to the terms of the 2020 Plan, grant to a participant an award or awards in respect of the number of shares the Board of Directors determines and the Board may specify the grant date, exercise price, vesting timing and conditions, expiration date and such other terms and conditions of the award. The exercise price per share purchasable under an award is determined by the Board of Directors at the time of grant, provided, that, except in the case of substitute awards, such exercise price shall not be less than the fair market value of a share on the date of grant of such award.

Share Reserve. Subject to adjustments for changes in capitalization, the maximum number of shares available for grant under the 2020 Plan and all other plans of a similar nature will not exceed 15% of the aggregate D-Wave Systems shares, on a fully diluted basis. If an award expires, terminates, is surrendered, is cancelled or otherwise becomes unexercisable without having been exercised in full (a “Surrendering Event”), such shares will be available for future grant, the maximum number of shares that may be issued upon the exercise of awards as well as the maximum number of shares that may be issued upon the exercise of incentive stock options will not exceed 15% of the aggregate D-Wave Systems shares, on a fully diluted basis on the date of adoption of the plan, plus, to the extent allowable under Section 422 of the Code and the Treasury Regulations promulgated thereunder, any shares that become available for issuance under the 2020 Plan as a result of a Surrendering Event. Any shares delivered pursuant to an award may consist, in whole or in part, of authorized and unissued shares or shares acquired by D-Wave Systems.

Options. The term of an option may be determined by the Board of Directors, but in any event, subject to accelerated termination of an option and other early termination as provided for in the 2020 Plan or an award agreement, each option will expire on the earlier of the expiration date; and the tenth anniversary of the date that the shares become publicly listed for trading on a securities exchange, provided that the Board of Directors may (but shall not be required to) provide in an award agreement for an extension of the expiration date of the award in the event the exercise of the option would be prohibited by law at the time of expiration pursuant to the terms of the award agreement or this

Vesting and Exercise. Each option will vest in accordance with the vesting schedule as determined by the Board of Directors. The Board of Directors has the discretion to accelerate the date upon which any portion of any option may vest. The consideration to be paid for the shares to be issued upon exercise of an option, including the method of payment, shall be determined by the Compensation Committee. Such consideration may be paid by: (i) cash or certified check or combination thereof; (ii) net settlement or broker-assisted cashless exercise; or (iii) to the extent expressly permitted by the Compensation Committee, (A) except for an award holder that is resident in Canada, other shares which have a fair market value on the date of surrender equal to the aggregate exercise price of the shares as to which said option shall be exercised; or (B) such other consideration and method of payment for the issuance of shares to the extent permitted by applicable laws. Following the Merger, each option previously granted under the 2020 plan became exercisable for 0.8896570 Common Shares.

Share Appreciation Rights (“SARs”). The exercise price or hurdle price per share under a SAR shall be determined by the Compensation Committee; provided, however, that, except in the case of substitute awards, such exercise price or hurdle price shall not be less than the fair market value of a share on the date of grant of such SAR. The term of each SAR shall be fixed by the Compensation Committee but shall not exceed 10 years from the date of grant of such SAR. The Compensation Committee shall determine the time or times at which a SAR may vest and/or be exercised or settled in whole or in part. The Compensation Committee may specify in an award agreement that an “in- the-money” SAR shall be automatically exercised on its expiration date.

Restricted Shares. D-Wave may grant restricted shares in such number and at such times as the Committee may, in its sole discretion, determine, as a bonus or similar payment in respect of services rendered by the participant for a fiscal year of D-Wave or otherwise as compensation, including as an incentive for future performance by the participant. The award agreement for awards of restricted shares shall specify the vesting schedule; the exercise price, which, to the extent required by applicable law, will not be less than the par value of a share; the consideration permissible for the payment of the purchase price of the restricted shares, which shall be satisfied in one of the following ways: (i) in cash at the time of purchase; (ii) by services rendered or to be rendered to D-Wave; or (iii) in any other form of legal consideration that may be acceptable to the Board of Directors; and transferability. Restricted shares shall be subject to such restrictions as the Compensation Committee may impose (including any limitation on the right to vote a share of restricted shares or the right to receive any dividend, dividend equivalent or other right), which restrictions may lapse separately or in combination at such time or times, in such installments or otherwise, as the Compensation Committee may deem appropriate.

Restricted Share Units. The Compensation Committee may grant RSUs in such number and at such times as the Compensation Committee may, in its sole discretion, determine, as a bonus or similar payment in respect of services rendered by a participant for a fiscal year of D-Wave or otherwise as compensation, including as an incentive for future performance by a participant. The award agreement shall specify the vesting schedule and the delivery schedule (which may include deferred delivery later than the vesting date). RSUs shall be subject to such restrictions as the Compensation Committee may impose, which restrictions may lapse separately or in combination at such time or times, in such installments or otherwise, as the Compensation Committee may deem appropriate. Dividend equivalents may be credited in respect of RSUs, as the Compensation Committee deems appropriate. Such dividend equivalents may be converted into additional RSUs by dividing (1) the aggregate amount or value of the dividends paid with respect to that number of shares equal to the number of RSUs then credited by (2) the fair market value per share on the payment date for such dividend. The additional RSUs credited by reason of such dividend equivalents will be subject to all the terms and conditions of the underlying RSUs to which they relate. A director that is not an employee and is subject to Canadian taxation shall not be entitled to receive RSUs.

Performance Awards. The Compensation Committee is authorized to grant performance awards in such number and at such times as the Compensation Committee may, in its sole discretion, determine, as a bonus or similar payment in respect of services rendered by the participant for a fiscal year of D-Wave or otherwise as compensation, including as an incentive for future performance by the participant. Performance awards may be denominated as a cash amount, number of shares or a combination thereof and are awards which may be earned upon achievement or satisfaction of performance conditions specified by the Compensation Committee. In addition, the Compensation Committee may specify that any other award shall constitute a performance award by conditioning the right of an award holder to exercise the award or have it settled or vest, and the timing thereof, upon achievement or satisfaction of such performance conditions as may be specified by the Compensation Committee. The Compensation Committee may use such business criteria and other measures of performance as it may deem appropriate in establishing any performance conditions. Subject to the terms of the 2020 Plan, the performance goals to be achieved during any performance period, the length of any performance period, the termination provisions, the amount of any performance award granted and the amount of any payment or transfer to be made pursuant to any performance award shall be determined by the Compensation Committee. Performance awards will be settled only after the end of the relevant performance period. The Compensation Committee shall specify the circumstances in which, and the extent to which, performance awards shall be paid or forfeited in the event of an award holder's termination.

Other Share-Based Awards. The Compensation Committee is authorized, subject to limitations under applicable law, to grant to participants such other awards that may be denominated or payable in, valued in whole or in part by reference to, or otherwise based on, or related to, shares or factors that may influence the value of shares, including convertible or exchangeable debt securities, other rights convertible or exchangeable into shares, purchase rights for shares, awards with value and payment contingent upon performance of D-Wave or business units thereof or any other factors designated by the Compensation Committee. The Compensation Committee shall determine the terms and conditions of such awards. Shares delivered pursuant to an award in the nature of a purchase right granted shall be purchased for such consideration, paid for at such times, by such methods and in such forms, including cash, shares, other awards, other property, or any combination thereof, as the Compensation Committee shall determine. Cash awards, as an element of or supplement to any other award under the 2020 Plan, may also be granted.

Treatment on Termination. If an award holder's employment or service as a director or a consultant terminates for any reason, voluntarily or involuntarily, any part of an award that has not vested will immediately cease vesting on the termination date and the award holder will not be entitled to any compensation in respect of any part of an award that has not vested. In the case of employees: upon termination of their employment for cause, the award will expire immediately; upon termination of their employment generally for any other reason other than death, any vested but unexercised part of the award may be exercised until the earlier of ninety (90) days following the termination date and the date its term expires, as applicable; upon termination of employment due to death, any vested but unexercised part of an award may be exercised until the earlier of one hundred eighty (180) days following the termination date and the date its term expires. In the case of directors: if the director ceases to hold office due to removal in accordance with section 129 of the Business Corporations Act (British Columbia) ("BCBCA") or due to becoming otherwise disqualified to hold office as a director, the award will expire immediately upon the termination date; otherwise if the director ceases to hold office as a director for any other, all non-vested awards will expire upon the termination date and any vested but unexercised part of the award may be exercised until the earlier of 90 days (180 days in the case of death or disability) following the date the award holder ceases to be a director and the date its term expires, as applicable. If a participant's services as a consultant are terminated for any reason, all non-vested awards will expire upon the termination date and any vested but unexercised part of the award may be exercised until the earlier of 90 days following the termination date and the date its term expires.

Transferability. In general, awards are not transferable or assignable, and may not be made subject to any other alienation, sale, pledge, hypothecation, disposal, encumbrance, execution, attachment or similar process, otherwise than by will or by the operation of laws. During the lifetime of the award holder, an award is exercisable only by the award holder, and any elections with respect to an award, may be made only by the award holder.

Adjustments Upon Changes in Capitalization, Amalgamation, Dissolution, etc. The number of shares subject to an outstanding award, and the number of shares which have been authorized and reserved for issuance under the 2020 Plan but as to which no awards have yet been granted or which have been returned to the 2020 Plan upon cancellation or expiration of an award, as well as the exercise price for each such outstanding award, will be proportionately adjusted for any increase or decrease in the number of issued shares resulting from a share split, reverse share split, share dividend, recapitalization, reorganization, subdivision, consolidation, combination or reclassification of the shares, or any other increase or decrease in the number of issued shares effected without receipt of consideration by D-Wave, and if the adjustment would result in fractional number of shares, the number of shares will be rounded down to the nearest whole number. In the event of an amalgamation or merger of D-Wave Systems with or into any other company or companies (other than an amalgamation or merger with a wholly-owned subsidiary or a transaction in which there is no substantial change in shareholders of D-Wave Systems) or the sale of all or substantially all of the assets of D-Wave Systems (and the right to do so is hereby expressly reserved), whether by way of statutory amalgamation, plan of arrangement, sale of assets and undertaking, or otherwise howsoever, then the successor corporation may assume, convert, replace or substitute any or all outstanding awards, which assumption, conversion, replacement or substitution will be binding on the holder of the award, with (i) equivalent awards or (ii) substantially similar consideration to the holder of the award as was provided to shareholders of D-Wave Systems (after taking into account the existing provisions, restrictions and terms of the award). In the event that the successor corporation refuses to assume, convert, replace or substitute an award, the award will fully vest and D-Wave Systems will notify the holder of the award in writing in advance of the amalgamation, merger or sale that the award will be fully exercisable for a period of fifteen (15) days from the date of such notice, and the award will terminate upon the expiration of such period. To the extent it has not been previously exercised, an award will terminate immediately prior to the consummation of the dissolution or liquidation of D-Wave Systems. In the event of the proposed dissolution or liquidation of D-Wave Systems, D-Wave Systems will notify each award holder as soon as practicable prior to the effective date of such proposed transaction. The D-Wave Systems board of directors, in its sole discretion, may provide for an award holder to have the right to exercise his or her award until fifteen (15) days prior to such transaction as to all of the shares covered by the award, including shares as to which the award would not otherwise be exercisable.

Amendment and Termination. The Board of Directors shall have the power to, at any time and from time to time, either prospectively or retrospectively, and without shareholder approval, amend, suspend or terminate the 2020 Plan or any award granted under the 2020 Plan; provided however that: (i) such amendment, suspension or termination is in accordance with applicable laws and the rules of any securities exchange on which the shares are listed; (ii) no such amendment, suspension or termination shall be made at any time to the extent such action would adversely affect the existing rights of an award holder with respect to any then outstanding award held by such award holder, as determined by the Board of Directors acting in good faith, without the award holder’s consent; and (iii) the Board of Directors shall obtain shareholder approval of the following: (x) such approval as may be required pursuant to D-Wave Systems’ organizational documents and applicable law, including securities laws and the rules and policies of a securities exchange upon which the shares of D-Wave are listed; and (y) any amendment that would reduce the exercise price or hurdle price of an outstanding award (other than as provided above). If the 2020 Plan is terminated, the provisions of the 2020 Plan and any administrative guidelines and other rules and regulations adopted by the Board of Directors and in force on the date of termination will continue in effect as long as any award or any rights pursuant thereto remain outstanding and, notwithstanding the termination of the 2020 Plan, the Board of Directors shall remain able to make such amendments to the 2020 Plan or the award as they would have been entitled to make if the 2020 Plan were still in effect. The 2020 Plan is scheduled to terminate on April 14, 2030. The termination of the 2020 Plan will have no effect on outstanding awards, which will continue in effect in accordance with their terms and conditions and the terms and conditions of the 2020 Plan and award agreements.

The following table gives information as of December 31, 2023, with respect to the company’s compensation plans, under which equity securities are authorized for issuance.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c)
Equity compensation plans approved by security holders	17,346,380 ⁽¹⁾	\$ 1.73	32,112,769 ⁽²⁾
Equity compensation plans not approved by security holders	—	—	—
Total	17,346,380	\$ 1.73	32,112,769

⁽¹⁾ Consists of 7,045,813 RSUs granted under the 2022 Plan and 10,300,567 stock options granted under the 2022 Plan and 2020 Plan .

⁽²⁾ Includes 22,767,361 available for issuance under the 2022 Plan and 9,345,408 available for issuance under the ESPP.

Item 13. Certain Relationships and Related Transactions and Director Independence

Related Party Transactions Policy

Our Board of Directors maintains a written related person transactions policy that sets forth the Company’s policies and procedures regarding the identification, review, consideration and oversight of “related person transactions.” For purposes of the Company’s policy only, a “related person transaction” is a transaction, arrangement or relationship (or any series of similar transactions, arrangements or relationships) in which the Company or any of its subsidiaries was, is or will be a participant involving an amount that exceeds \$120,000, in which any “related person” has or will have a direct or indirect interest.

Under the policy, prior to entering into any related person transaction, (i) the related person, (ii) the director, executive officer, nominee or beneficial owner who is an immediate family member of the related person or (iii) the business unit or function/department head responsible for the potential related person transaction shall provide notice to the Company's legal department of the facts and circumstances of the proposed related person transaction. The legal department will assess whether the proposed transaction is a related person transaction for purposes of the policy. If the legal department determines that the proposed transaction is a related person transaction for purposes of the policy, the proposed related person transaction shall be submitted to the Audit Committee for consideration at the next Audit Committee meeting. Any potential related person transaction involving the Company's General Counsel (or, in the absence of a General Counsel, the senior most member of the legal department) shall be submitted directly to the Audit Committee for its review. In considering related person transactions, the Audit Committee, or where submitted to the Chair of the Audit Committee, the Chair, will take into account the relevant available facts and circumstances, which may include, but are not limited to:

the benefits to the Company;

the impact on a director's independence in the event the related person is a director, immediate family member of a director or an entity in which a director is a partner, shareholder or executive officer;

the availability of other sources for comparable products or services;

the terms of the transaction; and

the terms available to unrelated third parties or to employees generally.

The Audit Committee (or the Chair of the Audit Committee) will approve only those transactions that are in, or are not inconsistent with, the best interests of the Company, as the Audit Committee (or the Chair of the Audit Committee) determines in good faith. All of the transactions described below were entered into prior to the adoption of such policy.

Related Party Transactions

DPCM Founder Shares

As of immediately prior to the Merger, there were 7,500,000 Founder Shares issued and outstanding, 7,252,500 of which were held by the Sponsor and the remaining 247,500 Founder Shares were held by other Initial Stockholders. Immediately prior to Closing, the Sponsor forfeited 4,484,425 of its 7,252,500 Founder Shares, as a result of which, upon Closing and as a result of the Merger, the remaining 3,015,575 Founder Shares were converted into 3,015,575 Common Shares on a one for one basis. The Initial Stockholders, subject to limited exceptions, agreed not to transfer, assign or sell any of the Common Shares received in exchange for their Founder Shares until August 5, 2023, the date that is one year after the completion of the Merger.

Private Warrants

On November 30, 2020, simultaneously with the closing of the DPCM IPO, DPCM completed the private sale of an aggregate of 8,000,000 Private Warrants to the Sponsor at a purchase price of \$1.00 per Private Warrant, generating gross proceeds to DPCM of \$8,000,000.

Following the Merger, each former Private Warrant is exercisable for 1.4541326 Common Shares. Such Warrants are non-redeemable for cash and exercisable on a cashless basis so long as they are held by the Sponsor or its permitted transferees.

On August 22, 2023, the Sponsor distributed the Private Warrants to its members on a pro rata basis.

Registration Rights and Lock-Up Agreement

At the Closing, the Registration Rights Holders, pursuant to the Plan of Arrangement, became parties to the Registration Rights and Lock-Up Agreement, pursuant to which, among other things, the Company is obligated to file a registration statement to register the resale of certain equity securities of the Company held by the Registration Rights Holders. The Registration Rights and Lock-Up Agreement also provides the Registration Rights Holders with demand registration rights and "piggy-back" registration rights, in each case, subject to certain requirements and customary conditions. Subject to certain exceptions, the Registration Rights and Lock-Up Agreement further provides for the securities of the Company held by the Registration Rights Holders to be locked-up for a period of time.

Below is a description of transactions since January 1, 2022 to which the Company was a party, in which:

the amounts involved exceeded or will exceed \$120,000; and

any of the Company's current directors, executive officers or holders of more than 5% of the Company's capital stock, or any member of the immediate family of, or person sharing the household with, the foregoing persons, had or will have a direct or indirect material interest.

Venture Loan and Security Agreement

On March 3, 2022, the Company entered into the Venture Loan Agreement, by and between the Borrowers (as defined in the Venture Loan Agreement) and PSPIB, as the lender. PSPIB is an affiliate of PSP, a significant shareholder of the Company and a beneficial owner of greater than 5% of the Company's capital stock. Under the Venture Loan Agreement, term loans in an aggregate principal amount of \$25.0 million were available to the Borrowers in three tranches, subject to certain terms and conditions.

The first tranche was advanced in an aggregate principal amount of \$15.0 million on March 3, 2022. The second tranche was advanced in an aggregate principal amount of \$5.0 million on June 30, 2022.

The term loans under the Venture Loan Agreement bore interest at a rate equal to the greater of either (i) the Prime Rate (as reported in The Wall Street Journal) plus 7.25%, and (ii) 10.5%. Interest on the outstanding advances was payable monthly, on the first business day of each calendar month through the earliest of December 31, 2022 and the Closing (the "Maturity Date").

The Company was to pay a final payment fee of 5.0% of the aggregate amount of the term loans made under the Venture Loan Agreement on the earliest of (i) the Maturity Date; (ii) the date that the Company prepays all of the outstanding aggregate principal amount in full, or (iii) the date the loan payments are accelerated due to an event of default (as defined in the Venture Loan Agreement). In connection with any prepayment of less than all of the outstanding principal balance of the loans, the Company was to pay PSPIB an amount equal to five percent of the principal balance of the loans being prepaid.

The Venture Loan Agreement was secured by a first-priority security interest in substantially all of the Borrowers' assets and contained certain operational covenants. The debt under the Venture Loan Agreement was fully repaid upon consummation of the Merger and the Venture Loan Agreement was discharged on such date.

On August 5, 2022, the Company repaid the Venture Loan including accrued interest totaling \$20.8 million. In addition to the \$20.8 million, the Company paid a \$1.0 million final payment fee to PSPIB.

Promissory Notes

On February 28, 2022, an affiliate of DPCM entered into an unsecured promissory note of up to \$1.0 million with the Sponsor (the "*Affiliate Note*"). The purpose of the Affiliate Note was to provide DPCM with additional working capital. All amounts drawn on the Affiliate Note were provided directly to DPCM. The Affiliate Note is not convertible and bears no interest. The principal balance of the Affiliate Note was originally due and payable upon the earlier of the date on which DPCM consummates its initial business combination, or the date that the winding up of DPCM is effective.

In connection with the Merger, the Affiliate Note was assumed by the Company. Pursuant to the Affiliate Note's most recent amendment, effective as of February 24, 2023, the principal balance was payable in four equal installments on April 30, 2023, June 30, 2023, August 31, 2023, and October 31, 2023. As of December 31, 2023, the Affiliate Note had been repaid in full.

On April 13, 2022, DPCM entered into an unsecured promissory note of up to \$1.0 million with the Sponsor (the "*DPCM Note*"). The purpose of the DPCM Note was to provide DPCM with additional working capital. All amounts drawn on the DPCM Note were provided directly to DPCM. In connection with the Merger, the DPCM Note was assumed by the Company. The DPCM Note is not convertible and bears no interest. Pursuant to the DPCM Note's most recent amendment, effective as of February 22, 2023, the principal balance was payable in four equal installments of \$55,000 each on April 30, 2023, June 30, 2023, August 31, 2023, and October 31, 2023. As of December 31, 2023, the DPCM Note had been repaid in full.

The execution of the amended and restated Affiliate Note and the amended and restated DPCM Note are related party transactions as these notes are payable to affiliates of the Company.

PIPE Financing

Concurrently with the execution of the Transaction Agreement, the PIPE Investors entered into the PIPE Subscription Agreements, pursuant to which, among other things, each PIPE Investor subscribed to and agreed to purchase on the Closing Date, and the Company agreed to issue and sell to each such PIPE Investor on the Closing Date, the number of Common Shares equal to the purchase price set forth therein, divided by \$10.00 and multiplied by the Exchange Ratio, in each case, on the terms and subject to the conditions set forth therein. The table below sets forth the number of Common Shares purchased by the Company's related parties in the PIPE Financing:

Stockholder	Common Shares	Total Purchase Price
PSP ⁽¹⁾	4,362,397	\$ 30,000,000
GS ⁽²⁾	727,066	\$ 5,000,000
Emil Michael ⁽³⁾	36,353	\$ 250,000

- (1) PSP beneficially owned more than 5% of the Company's capital stock as of the Closing Date.
- (2) GS beneficially owned more than 5% of the Company's capital stock as of the Closing Date.
- (3) Emil Michael is a member of our Board of Directors.

PSP Side Letter Agreement

On September 26, 2022, the Company and PSP entered into the PSP Side Letter Agreement pursuant to which PSP agreed that for so long as PSP beneficially owns, directly or indirectly, Common Shares and Exchangeable Shares representing 50% or more of the rights to vote at a meeting of the stockholders of the Company, whether directly or indirectly, including through any voting trust (i) PSP will not exercise the voting rights attached to any of such shares that would result in PSP voting, whether directly or indirectly, including through any voting trust, more than 49.99% of the voting interests eligible to vote at any meeting of the stockholders of the Company and (ii) PSP will vote such shares in favor of the election of the directors that are nominated by the Company's Board of Directors or a duly authorized committee thereof. Given that, as of the Record Date, PSP owns less than 50% of our Common Shares and Exchangeable Shares, the PSP Side Letter Agreement currently has no impact on PSP's ability to vote its shares.

Loan and Security Agreement

On April 13, 2023 (the "*Loan Closing Date*"), the Company, as borrower, and certain Company's subsidiaries as Guarantors (as defined in the Loan Agreement) (collectively, the "*Loan Parties*"), entered into a \$50 million Loan and Security Agreement with PSPIB, as lender and collateral agent (the "*Term Loan*"). The first two tranches of the Term Loan, each amounting to \$15.0 million in principal, were advanced to D-Wave on April 14, 2023 and July 13, 2023, respectively. The third tranche, amounting to \$20.0 million in principal, has not yet been advanced and is subject to certain terms and conditions. The Term Loan provides for an initial advance of \$15.0 million, which was advanced on April 14, 2023, and two subsequent advances of \$15.0 million and \$20.0 million respectively, with each subsequent advance being subject to certain terms and conditions.

The Term Loan is secured by a first-priority security interest in substantially all of the Loan Parties' assets, contains certain operational and financial covenants, and matures on March 31, 2027.

Each advance under the Term Loan is subject to a 2.0% drawdown fee and bears interest on a monthly basis, at the discretion of the Company, at either (i) 10% payable in cash, or (ii) 11% payable in kind.

Upon the repayment or prepayment of all or a portion of the Term Loan, there is a premium payment due that is equal to 3% of the amount of the Term Loan repaid/prepaid prior to the first anniversary of the Loan Closing Date, 2% of the amount of the Term Loan repaid/prepaid after the first anniversary of the Loan Closing Date and on or prior to the second anniversary of the Loan Closing Date, 1% of the amount of the Term Loan repaid/prepaid after the second anniversary of the Loan Closing Date but on or prior to the third anniversary of the Loan Closing Date, with no premium payment due after the third anniversary of the Loan Closing Date.

As of March 28, 2024, the entirety of the initial and second advances totaling \$30.0 million is outstanding and no principal or interest has yet been paid.

Executive Officer and Director Compensation

Please see the section titled "Executive and Director Compensation" for information regarding the compensation of our directors and executive officers.

Employment Agreements

The Company has entered into agreements with our executive officers that, among other things, provide for certain compensatory and change of control benefits, as well as severance benefits. For a description of these agreements with our named executive officers, see the section titled “Executive and Director Compensation—Employment Arrangements with Named Executive Officers.”

Indemnification Agreements

The Company’s Amended and Restated Certificate of Incorporation contains provisions limiting the liability of executive officers and directors and the Company’s Amended and Restated Bylaws provides that the Company will indemnify each of its executive officers and directors to the fullest extent permitted under Delaware law. The Company’s Amended and Restated Certificate of Incorporation and its Amended and Restated Bylaws also provide the Board of Directors with discretion to indemnify certain key employees when determined appropriate by the Company’s Board of Directors.

The Company entered into indemnification agreements with each of its officers and directors to indemnify such individuals, to the fullest extent permitted by law and subject to certain limitations, against all liabilities, costs, charges and expenses reasonably incurred by such individuals in an action or proceeding to which any such individual was made a party by reason of being an officer or director of the Company or an organization of which the Company is a shareholder or creditor if such individual serves such organization at the Company’s request.

Director Independence

Our Board of Directors has undertaken a review of the independence of each director. Based on information provided by each director concerning their background, employment and affiliations, our Board of Directors has determined that Roger Biscay, Amy Cappellanti-Wolf, Ziv Ehrenfeld, Emil Michael, Kirstjen Nielsen, Philip Adam Smalley III, and Steven M. West do not have any relationships that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of the individuals is “independent” as defined under the NYSE listing standards. In making these determinations, our Board of Directors considered the current and prior relationships that each individual has with the Company and all other facts and circumstances our Board of Directors deemed relevant in determining their independence, including the beneficial ownership of securities of the Company by each non-employee director and the transactions described in the section titled “*Certain Relationships and Related Person Transactions*.”

Item 14. Principal Accountant Fees and Services

On June 7, 2023, PricewaterhouseCoopers LLP (Canada) (“PwC”) notified the Company of its decision to decline to stand for re-election as the independent registered public accounting firm of the Company. Although PwC declined to stand for re-election, it maintained its relationship with the Company for the review of the Company’s Quarterly Report on Form 10-Q for the quarterly period ending June 30, 2023 (the “10-Q”). On August 10, 2023, the Company filed the 10-Q. As a result, PwC’s term as the Company’s independent registered public accounting firm ended.

PwC’s reports on the financial statements for the fiscal years ended December 31, 2022 and 2021 contained no adverse opinion or disclaimer of opinion and were not qualified or modified as to uncertainty, audit scope, or accounting principles, except that PwC’s report for the fiscal years ended December 31, 2022 and 2021 contained a separate paragraph that stated the Company has incurred net losses and negative cash flows from operating activities and has a negative working capital that raise substantial doubt about the Company’s ability to continue as a going concern. During the fiscal years ended December 31, 2022 and 2021, and in the subsequent interim period through August 10, 2023, there were no disagreements with PwC on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which if not resolved to PwC’s satisfaction, would have caused PwC to make reference to the subject matter of the disagreement in connection with PwC’s report. Aside from the identification of a material weakness in the Company’s internal controls over financial reporting during the fiscal year ended December 31, 2022 pertaining to the Company’s design and operation of controls related to its financial statement close process, there were no reportable events of the type described in Item 304(a)(1)(v) of Regulation S-K during the fiscal years ended December 31, 2022 and 2021 or in the subsequent interim period through August 10, 2023.

On August 24, 2023, the Company engaged Grant Thornton to serve as the Company’s independent registered public accounting firm for the fiscal year ending December 31, 2023 beginning with the fiscal third quarter ending September 30, 2023. The Audit Committee of the Board of Directors of the Company approved the selection of Grant Thornton as the Company’s independent registered public accounting firm for the fiscal year ending December 31, 2023 on August 23, 2023.

During the two fiscal years ended December 31, 2022 and 2021, and the subsequent interim period through the date of the Current Report on Form 8-K filed on August 24, 2023, the Company has not consulted with Grant Thornton regarding either (i) the application of accounting principles to a specified transaction, either completed or proposed; or the type of audit opinion that might be rendered on the Company's consolidated financial statements, and neither a written report was provided to the Company nor was oral advice provided that Grant Thornton concluded was an important factor considered by the Company in reaching a decision as to the accounting, auditing or financial reporting issue; or (ii) any matter that was either the subject of a "disagreement," as that term is defined in Item 304(a)(1)(iv) of Regulation S-K and the related instructions to Item 304 of Regulation S-K, or a "reportable event," as that term is defined in Item 304(a)(i)(v) of Regulation S-K.

The following table summarizes the fees of Grant Thornton LLP ("Grant Thornton"), our current independent registered public accounting firm, for 2023 and PricewaterhouseCoopers LLP (Canada) ("PwC"), our prior independent registered public accounting firm, for 2022 and 2023 billed to us for each of the last two fiscal years for audit services and billed to us in each of the last two fiscal years for other services:

Fee Category	2023 (USD)		2022 (USD)	
	Grant Thornton	PwC	PwC	
Audit Fees	\$ 475,000	\$ 536,000	\$ 887,500	
Audit Related Fees	—	8,000	674,500	
Tax Fees	—	255,000	878,000	
All Other Fees	—	—	—	
Total Fees	\$ 475,000	\$ 799,000	\$ 2,440,000	

Audit Fees

Audit fees for the fiscal year ended December 31, 2023 include fees invoiced for professional services rendered for the audit of our annual consolidated financial statements; for reviews of our financial statements included in our SEC filings and Quarterly Reports on Form 10-Q; and fees related to consents, comfort letters and assistance with the review of our SEC filings. Audit fees for the fiscal year ended December 31, 2022 include fees invoiced for professional services rendered for the audit of our original and restated annual consolidated financial statements; for reviews of our financial statements included in our SEC filings and Quarterly Reports on Form 10-Q; and fees related to consents, comfort letters and assistance with the review of our SEC filings.

Audit Related Fees

Audit related fees for the fiscal year ended December 31, 2022 include fees for professional services provided in connection with our Merger, including consents and review of documents filed with the SEC and with our registration statements.

Tax Fees

Tax fees consist of fees billed for professional services relating to tax compliance and tax advisory services.

Audit Committee Pre-Approval Policy and Procedures

Our Audit Committee's policy is to review in advance and pre-approve all audit or non-audit services to be provided by the Company's independent auditor or other auditors and to approve all related fees and terms thereof. Pre-approval will be given either as part of our Audit Committee's approval of the scope of the engagement of the independent registered public accounting firm or on an individual, explicit, case-by-case basis before the independent registered public accounting firm is engaged to provide each service. All of the services relating to the fees in the table above were approved by our Audit Committee.

Part IV

Item 15. Exhibits and Financial Statement Schedules

(a) Financial Statements and Financial Statement Schedules

(1) **Financial Statements.** Financial Statements are listed in the Index to Consolidated Financial Statements on page F-1 of this report.

(2) **Financial Statement Schedules.** No financial statement schedules are included because such schedules are not applicable, are not required, or because required information is included in the consolidated financial statements or notes thereto.

(3) **Exhibits.** See Item 15(b) below.

(b) Exhibits

Exhibit No.	Description	Incorporated by Reference Exhibits			
		Filer	Form	Exhibit	Filing Date
2.1	Transaction Agreement, dated February 7, 2022, by and among DPCM Capital, Inc., D-Wave Quantum Inc., DWSI Holdings Inc., DWSI Canada Holdings ULC, D-Wave Quantum Technologies Inc. and D-Wave Systems Inc.	D-Wave Quantum Inc.	S-4	2.1	March 15, 2022
2.2	Amendment to Transaction Agreement, dated June 16, 2022, by and among DPCM Capital, Inc., D-Wave Quantum Inc., DWSI Holdings Inc., DWSI Canada Holdings ULC, D-Wave Quantum Technologies Inc. and D-Wave Systems Inc.	D-Wave Quantum Inc.	S-4/A	2.2	June 23, 2022
3.1	Amended and Restated Certificate of Incorporation of D-Wave Quantum Inc.	D-Wave Quantum Inc.	S-4	3.4	March 15, 2022
3.2	Amended and Restated Bylaws of D-Wave Quantum Inc.	D-Wave Quantum Inc.	S-4	3.5	March 15, 2022
3.3	Certificate of Designations of Special Voting Preferred Stock of D-Wave Quantum Inc.	D-Wave Quantum Inc.	S-4/A	3.6	May 27, 2022
4.1	Specimen Common Stock Certificate of D-Wave Quantum Inc.	D-Wave Quantum Inc.	S-4/A	4.1	May 27, 2022
4.2	Description of Securities of D-Wave Quantum Inc.	D-Wave Quantum Inc.	10-K	4.2	April 18, 2023
4.3	Warrant Agreement, dated October 20, 2020, between Continental Stock Transfer & Trust Company and DPCM Capital, Inc.	DPCM Capital, Inc.	8-K	4.1	October 2, 2020
4.4	Assignment, Assumption and Amendment Agreement, dated August 5, 2022, among DPCM Capital, Inc., D-Wave Quantum Inc., Continental Stock Transfer & Trust Company, Computer share Inc., and Computer share Trust Company, N.A.	D-Wave Quantum Inc.	8-K	4.3	August 10, 2022
4.5	Exchangeable Share Provisions.	D-Wave Quantum Inc.	S-4/A	4.7	May 27, 2022
10.1	Plan of Arrangement.	DPCM Capital, Inc.	8-K	10.1	February 11, 2022

10.2	Registration Rights and Lock-Up Agreement.	D-Wave Quantum Inc.	8-K	10.2	August 10, 2022
10.3	Form of PIPE Subscription Agreement.	DPCM Capital, Inc.	8-K	10.5	February 11, 2022
10.4	Exchangeable Share Support Agreement.	D-Wave Quantum Inc.	8-K	10.4	August 10, 2022
10.5	Voting and Exchange Trust Agreement.	D-Wave Quantum Inc.	8-K	10.5	August 10, 2022
10.6	Amended and Restated Sponsor Support Agreement.	D-Wave Quantum Inc.	S-4/A	10.10	June 23, 2022
10.7†	Agreement, dated as of September 22, 2005, between Her Majesty the Queen in Right of Canada as represented by the Minister of Industry and D-Wave Systems Inc., as amended.	D-Wave Quantum Inc.	S-4	10.16	March 15, 2022
10.8	Contribution Agreement, dated as of July 10, 2018, between Canada Foundation for Sustainable Development Technology and D-Wave Systems Inc.	D-Wave Quantum Inc.	S-4	10.17	March 15, 2022
10.9†	Amendment No. 1 to Contribution Agreement, dated as of May 25, 2020, between Canada Foundation for Sustainable Development Technology and D-Wave Systems Inc.	D-Wave Quantum Inc.	S-4/A	10.18	May 27, 2022
10.10†	Agreement, dated as of November 20, 2020, among D-Wave Systems Inc., DWSI Holdings Inc., each as recipients, and Her Majesty the Queen in Right of Canada as represented by the Minister of Industry.	D-Wave Quantum Inc.	S-4/A	10.19	May 27, 2022
10.11	Amendment Agreement No. 1 to Agreement, dated as of August 24, 2021, between D-Wave Systems Inc., (resulting from the amalgamation of D-Wave Systems Inc. with its parent company DWSI Holdings Inc.) and Her Majesty the Queen in Right of Canada as represented by the Minister of Industry.	D-Wave Quantum Inc.	S-4	10.20	March 15, 2022
10.12	Triple Net Lease, dated as of January 15, 2013, between Embarcadero Joint Venture and D-Wave Systems Inc.	D-Wave Quantum Inc.	S-4	10.21	March 15, 2022
10.13	First Amendment to Lease, dated as of January 29, 2018, between Embarcadero Joint Venture and D-Wave Commercial Inc.	D-Wave Quantum Inc.	S-4	10.22	March 15, 2022
10.14	Second Amendment to the Lease, dated as of September 9, 2022, between Embarcadero Joint Venture and D-Wave Commercial Inc.	D-Wave Quantum Inc.	8-K	10.1	December 28, 2022
10.15	Lease Agreement, dated as of July 25, 2012, among 0727219 Ltd., PCI Beta Holdings Inc. and D-Wave Systems Inc.	D-Wave Quantum Inc.	S-4	10.23	March 15, 2022
10.16	Amendment of Lease, dated as of October 11, 2012, among 0727219 Ltd., PCI Canada Way Limited Partnership and D-Wave Systems Inc.	D-Wave Quantum Inc.	S-4	10.24	March 15, 2022
10.17	Lease Extension and Modification Agreement, dated as of November 8, 2021, between Redstone Enterprises Ltd. and D-Wave Systems Inc.	D-Wave Quantum Inc.	S-4	10.25	March 15, 2022
10.18†	Lease Agreement, dated as of December 15, 2017, between 0937847 B.C. Ltd. and Omni Circuit Boards Ltd.	D-Wave Quantum Inc.	S-4	10.26	March 15, 2022
10.19†	Lease Renewal Agreement, dated as of October 14, 2022, to the Lease Agreement, dated as of December 15, 2017, between 0937847 B.C. Ltd. and Omni Circuit Boards Ltd.	D-Wave Quantum Inc.	8-K	10.1	December 21, 2022
10.20†	Agreement for Pilot Line Operation, dated as of July 31, 2006, by and between Cypress Semiconductor Corporation and D-Wave Systems Inc., as amended.	D-Wave Quantum Inc.	S-4	10.27	March 15, 2022

10.21†	Agreement for Semiconductor Line Operation, dated as of December 23, 2012, by and between Cypress Semiconductor Corporation and D-Wave Systems Inc., as amended.	D-Wave Quantum Inc.	S-4	10.28	March 15, 2022
10.22#†	Full-Time Amended and Restated Employment Agreement, dated as of January 1, 2020, between D-Wave Commercial Inc. and Alan Baratz.	D-Wave Quantum Inc.	S-4	10.29	March 15, 2022
10.23#†	Form of DWSI Holdings Inc. 2020 Equity Incentive Plan Award Agreement—Option between Alan Baratz and DWSI Holdings Inc.	D-Wave Quantum Inc.	S-4	10.30	March 15, 2022
10.24#†	Full-time Employment Agreement dated as of August 20, 2021, between D-Wave Commercial Inc. and John Markovich.	D-Wave Quantum Inc.	S-4	10.31	March 15, 2022
10.25#†	Form of D-Wave Systems Inc. 2020 Equity Incentive Plan Award Agreement—Option between John Markovich and D-Wave Systems Inc.	D-Wave Quantum Inc.	S-4	10.32	March 15, 2022
10.26#	DWSI Holdings Inc. 2020 Equity Incentive Plan.	D-Wave Quantum Inc.	S-4	10.35	March 15, 2022
10.27	Form of Indemnification Agreement of D-Wave Quantum Inc.	D-Wave Quantum Inc.	S-4/A	10.36	May 27, 2022
10.28#	2022 Equity Incentive Plan.	D-Wave Quantum Inc.	8-K	10.29	August 10, 2022
10.29#	2022 Employee Stock Purchase Plan.	D-Wave Quantum Inc.	8-K	10.30	August 10, 2022
10.30	Venture Loan and Security Agreement, dated as of March 3, 2022, between D-Wave, D-Wave US Inc., D-Wave Government Inc., D-Wave Commercial Inc., D-Wave International Inc., D-Wave Quantum Solutions Inc. and Omni Circuit Boards Ltd., as Borrower, and PSPIB Unitas Investments II Inc., as Lender.	D-Wave Quantum Inc.	S-4/A	10.39	March 15, 2022
10.31	DWSI Holdings Inc. Warrant Certificate for Purchase of Preferred Shares dated as of November 24, 2020 held by Amazon.com NV Investment Holdings LLC.	D-Wave Quantum Inc.	S-4/A	10.40	March 15, 2022
10.32	Form of Performance Guarantee of D-Wave Quantum Inc. to Her Majesty the Queen in Right of Canada as represented by the Minister of Industry.	D-Wave Quantum Inc.	S-4/A	10.41	May 27, 2022
10.33	Purchase Agreement, dated as of June 16, 2022, among D-Wave Quantum Inc., D-Wave Systems Inc., DPCM Capital, Inc. and Lincoln Park Fund, LLC.	D-Wave Quantum Inc.	S-4/A	10.43	June 23, 2022
10.34	Registration Rights Agreement, dated as of June 16, 2022, among D-Wave Quantum Inc., D-Wave Systems Inc., DPCM Capital, Inc. and Lincoln Park Fund, LLC.	D-Wave Quantum Inc.	S-4/A	10.44	June 23, 2022
10.35	Amended and Restated Side Letter Agreement, dated as of September 26, 2022, among D-Wave Quantum Inc. and Public Sector Pension Investment Board.	D-Wave Quantum Inc.	8-K	10.1	September 27, 2022
10.36#†	Amendment No. 1 to the Full-Time Amended and Restated Employment Agreement, dated as of January 1, 2020, between D-Wave Commercial Inc. and Alan Baratz, dated October 27, 2022.	D-Wave Quantum Inc.	8-K	10.2	November 2, 2022
10.37*#†	Form of D-Wave Quantum Inc. 2022 Equity Incentive Plan Restricted Stock Unit Award Agreement (Executive Officer)	D-Wave Quantum Inc.	8-K	10.3	November 2, 2022
10.38#	Form of D-Wave Quantum Inc. 2022 Equity Incentive Plan Option Award Agreement.	D-Wave Quantum Inc.	S-1	10.38	February 13, 2023

10.39#†	Full-time Employment Agreement dated as of February 20, 2015, between D-Wave Systems Inc. and Victoria Brydon, as amended.	D-Wave Quantum Inc.	S-1	10.39	February 13, 2023
10.40#†	Form of DWSI Holdings Inc. 2020 Equity Incentive Plan Award Agreement—Option between Victoria Brydon and DWSI Holdings Inc.	D-Wave Quantum Inc.	S-1	10.4	February 13, 2023
10.41†	Thirteenth Amendment, dated March 1, 2023, between D-Wave Systems Inc. and SkyWater Technology Foundry, Inc. to the Agreement for Semiconductor Line Operation, dated as of December 23, 2012, by and between Cypress Semiconductor Corporation and D-Wave Systems Inc., as amended and assigned to SkyWater Technology Foundry, Inc.	D-Wave Quantum Inc.	8-K	10.1	March 3, 2023
10.42#†	Amendment No. 1 to the Full-Time Employment Agreement, dated as of August 20, 2021, between D-Wave Commercial Inc. and John Markovich, dated September 20, 2022	D-Wave Quantum Inc.	10-K	10.42	April 18, 2023
10.43#	Form of D-Wave Quantum Inc. 2022 Equity Incentive Plan Restricted Stock Unit Award Agreement (CEO)	D-Wave Quantum Inc.	10-K	10.43	April 18, 2023
10.44#†	D-Wave Quantum Inc. 2022 Equity Incentive Plan Restricted Stock Unit Award Agreement - John Markovich	D-Wave Quantum Inc.	10-K	10.44	April 18, 2023
10.45#†	D-Wave Quantum Inc. 2022 Equity Incentive Plan Restricted Stock Unit Award Agreement - Alan Baratz 2022(1)	D-Wave Quantum Inc.	10-K	10.45	April 18, 2023
10.46#†	D-Wave Quantum Inc. 2022 Equity Incentive Plan Restricted Stock Unit Award Agreement - Alan Baratz 2022(2)	D-Wave Quantum Inc.	10-K	10.46	April 18, 2023
10.47#†	D-Wave Quantum Inc. 2022 Equity Incentive Plan Restricted Stock Unit Award Agreement – Victoria Brydon 2022(2)	D-Wave Quantum Inc.	10-K	10.47	April 18, 2023
10.48 †	Loan and Security Agreement, dated as of April 13, 2023, by and among PSPIB Unitas Investments II, Inc., D-Wave Quantum Inc., and its subsidiaries.	D-Wave Quantum Inc.	8-K	10.1	April 19, 2023
10.49	Amendment No. 2 to Agreement, dated as of April 19, 2023, between D-Wave Quantum Inc., D-Wave Systems Inc., and His Majesty the King in Right of Canada as represented by the Minister of Industry.	D-Wave Quantum Inc.	8-K	10.1	April 24, 2023
10.50	Consent and Waiver Agreement, dated as of May 26, 2023, by and among PSPIB Unitas Investments II Inc. and D-Wave Quantum Inc. and its subsidiaries.	D-Wave Quantum Inc.	8-K	10.1	June 2, 2023
10.51	First Amendment to Loan and Security Agreement, dated as of June 16, 2023, by and among PSPIB Unitas Investments II Inc. and D-Wave Quantum Inc.	D-Wave Quantum Inc.	10-Q	10.4	August 10, 2023
10.52	Limited Waiver and Second Amendment to Loan and Security Agreement, dated as of July 13, 2023, by and among PSPIB Unitas Investments II Inc. and D-Wave Quantum Inc.	D-Wave Quantum Inc.	8-K	10.1	July 20, 2023
10.53	Third Amendment to Loan and Security Agreement, dated as of July 20, 2023, by and among PSPIB Unitas Investments II Inc. and D-Wave Quantum Inc.	D-Wave Quantum Inc.	8-K	10.1	July 21, 2023

10.54	Limited Waiver to Loan and Security Agreement, dated as of July 28, 2023, by and between D-Wave Quantum Inc. and PSPIB Unitas Investments II Inc.	D-Wave Quantum Inc.	10-Q	10.7	August 10, 2023
10.56†	DWSI Holdings Inc. 2020 Equity Incentive Plan Award Agreement – Option, between Diane Nguyen and DWSI Holdings Inc., dated May 8, 2020.	D-Wave Quantum Inc.	10-Q	10.9	August 10, 2023
10.57†	D-Wave Systems Inc. 2020 Equity Incentive Plan Award Agreement – Option, between Diane Nguyen and D-Wave Systems Inc., dated March 29, 2021.	D-Wave Quantum Inc.	10-Q	10.10	August 10, 2023
10.58†	D-Wave Systems Inc. 2020 Equity Incentive Plan Award Agreement – Option, between Diane Nguyen and D-Wave Systems Inc., dated September 30, 2021.	D-Wave Quantum Inc.	10-Q	10.11	August 10, 2023
10.59†	Full-Time Employment Agreement, between Diane Nguyen and D-Wave Commercial Inc., dated March 4, 2022, as amended.	D-Wave Quantum Inc.	10-Q	10.12	August 10, 2023
10.60†	Promotion Letter between Diane Nguyen and D-Wave Commercial Inc., dated July 10, 2023.	D-Wave Quantum Inc.	10-Q	10.13	August 10, 2023
10.61†	Amendment to Full-Time Employment Agreement, between Victoria Brydon and D-Wave Systems Inc., dated July 10, 2023.	D-Wave Quantum Inc.	10-Q	10.14	August 10, 2023
10.62	Fourth Amendment to Loan and Security Agreement, dated as of October 6, 2023, by and between PSPIB Unitas Investments II Inc. and D-Wave Quantum Inc.	D-Wave Quantum Inc.	8-K	10.1	October 11, 2023
10.63*†	Limited Waiver to Loan and Security Agreement dated as of November 7, 2023, by and between PSPIB Unitas Investments II Inc. and D-Wave Quantum Inc.				
10.64*†	Amendment No. 3 to Agreement, dated as of November 20, 2023, between D-Wave Quantum Inc., D-Wave Systems Inc., and His Majesty the King in Right of Canada as represented by the Minister of Industry.				
10.65*†	Fourteenth Amendment, dated December 26, 2023, between D-Wave Systems Inc. and SkyWater Technology Foundry, Inc. to the Agreement for Semiconductor Line Operation, dated as of December 23, 2012, by and between Cypress Semiconductor Corporation and D-Wave Systems Inc., as amended and assigned to SkyWater Technology Foundry, Inc.				
10.66*†	Fifth Amendment to Loan and Security Agreement, dated as of February 7, 2024, by and between PSPIB Unitas Investments II Inc. and D-Wave Quantum Inc.				
10.67*†	Third Amendment to the Lease, dated as of February 14, 2024, between Embarcadero Joint Venture and D-Wave Commercial Inc.				
21.1	List of subsidiaries of D-Wave Quantum Inc.	D-Wave Quantum Inc.	10-K	21.1	April 18, 2023
23.1*	Consent of PricewaterhouseCoopers LLP, independent registered public accounting firm of D-Wave Systems Inc.				
23.2*	Consent of Grant Thornton LLP, independent registered public accounting firm of D-Wave Systems Inc.				

- 31.1* Certification of Chief Executive Officer pursuant to Rule 13a-14(a) and Rule 15d-14(a), promulgated under the Securities Exchange Act of 1934, as amended.
- 31.2* Certification of Chief Financial Officer pursuant to Rule 13a-14(a) and Rule 15d-14(a), promulgated under the Securities Exchange Act of 1934, as amended.
- 32.1** Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 32.2** Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 97 D-Wave Quantum Inc.'s Clawback Policy
- 101.INS Inline XBRL Instance Document
*
- 101.SC Inline XBRL Taxonomy Extension Schema Document.
H*
- 101.CA Inline XBRL Taxonomy Extension Calculation Linkbase
L* Document.
- 101.DE Inline XBRL Taxonomy Extension Definition Linkbase
F* Document.
- 101.LA Inline XBRL Taxonomy Extension Labels Linkbase Document.
B*
- 101.PR Inline XBRL Taxonomy Extension Presentation Linkbase
E* Document.
- 104* Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).

* Filed herewith.

** Furnished with this report in accordance with Item 601(b)(32) of Regulation S-K, this exhibit is not deemed “filed” for purposes of Section 18 of the Exchange Act or otherwise subject to the liabilities of that section. Such certifications will not be deemed incorporated by reference into any filing under the Securities Act, except to the extent that the registrant specifically incorporates it by reference.

Indicates management contract or compensatory plan or arrangement.

† Certain portions of this exhibit (indicated by “[*****]”) have been redacted pursuant to Regulation S-K, Item 601(a)(6).

(c) Financial Statement Schedules

(1) See Item 15(a) above.

Item 16. Form 10-K Summary

The Company has elected not to provide summary information.

Signatures

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

D-Wave Quantum Inc.

March 29, 2024

By: /s/ Alan Baratz

Alan Baratz

Chief Executive Officer and President

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

Signature	Capacity	Date
<u>/s/ Alan Baratz</u> Alan Baratz	Chief Executive Officer and President (Principal Executive Officer) and Director	March 29, 2024
<u>/s/ John M. Markovich</u> John M. Markovich	Chief Financial Officer (Principal Financial and Accounting Officer)	March 29, 2024
<u>/s/ Steven M. West</u> Steven M. West	Chairman of the Board, Director	March 29, 2024
<u>/s/ Roger Biscay</u> Roger Biscay	Director	March 29, 2024
<u>/s/ Ziv Ehrenfeld</u> Ziv Ehrenfeld	Director	March 29, 2024
<u>/s/ Emil Michael</u> Emil Michael	Director	March 29, 2024
<u>/s/ Kirstjen Nielsen</u> Kirstjen Nielsen	Director	March 29, 2024
<u>/s/ Philip Adam Smalley III</u> Philip Adam Smalley III	Director	March 29, 2024
<u>/s/ Amy Cappellanti-Wolf</u> Amy Cappellanti-Wolf	Director	March 29, 2024

Financial Statements

Report of Independent Registered Public Accounting Firm (Grant Thornton LLP, Bellevue, Washington, Auditor Firm ID: PCAOB ID 248)	107
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Consolidated Statements of Operations and Comprehensive loss for the years ended December 31, 2023 and 2022	110
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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
D-Wave Quantum Inc.

Opinion on the financial statements

We have audited the accompanying consolidated balance sheet of D-Wave Quantum Inc. (a Delaware corporation) and subsidiaries (the “Company”) as of December 31, 2023, the related consolidated statements of operations and comprehensive loss, stockholders’ equity (deficit), and cash flows for the year ended December 31, 2023, and the related notes (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2023, and the results of its operations and its cash flows for the year ended December 31, 2023, in conformity with accounting principles generally accepted in the United States of America.

Going Concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2 to the financial statements, the Company incurred a net loss of \$82.7 million during the year ended December 31, 2023, and as of that date, the Company’s total liabilities exceeded its total assets by \$24.5 million. These conditions, along with other matters as set forth in Note 2, raise substantial doubt about the Company’s ability to continue as a going concern. Management’s plans in regard to these matters are also described in Note 2. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for opinion

These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s financial statements based on our audit. 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the 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 audit, 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 audit included performing procedures to assess the risks of material misstatement of the 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 financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ GRANT THORNTON LLP

We have served as the Company’s auditor since 2023.

Bellevue, Washington
March 29, 2024

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of D-Wave Quantum Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheet of D-Wave Quantum Inc. and its subsidiaries (together, the Company) as of December 31, 2022, and the related consolidated statements of operations and comprehensive loss, of stockholders' equity (deficit) and of cash flows for the year then ended, 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, 2022, and the results of its operations and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America.

Substantial Doubt About the Company's Ability to Continue as a Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in note 2 to the consolidated financial statements, the Company has incurred net losses and negative cash flows from operating activities and has a negative working capital that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in note 2. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

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 audit. 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 audit 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.

Our audit 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 audit 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 audit provides a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP
Chartered Professional Accountants
Vancouver, Canada

April 18, 2023, except for the effects of the restatement discussed in note 3 (not presented herein) to the consolidated financial statements, appearing under Item 8 of the Company's 2022 annual report on Form 10-K/A, as to which the date is March 15, 2024.

We served as the Company's auditor from 2010 to 2023.

D-Wave Quantum Inc.
Consolidated Balance Sheets

<i>(In thousands, except share and per share data)</i>	December 31, 2023	December 31, 2022
Assets		
Current assets:		
Cash	\$ 41,307	\$ 7,065
Trade accounts receivable, net	1,652	757
Research incentive receivable	—	264
Inventories	2,078	2,196
Prepaid expenses and other current assets	2,009	3,643
Total current assets	47,046	13,925
Property and equipment, net	2,551	2,294
Operating lease right-of-use assets	8,223	9,133
Intangible assets, net	179	244
Other non-current assets	1,357	1,351
Total assets	\$ 59,356	\$ 26,947
Liabilities and stockholders' deficit		
Current liabilities:		
Trade accounts payable	\$ 1,465	\$ 3,756
Accrued expenses and other current liabilities	5,343	6,687
Current portion of operating lease liabilities	1,374	1,533
Loans payable, net, current	399	1,863
Deferred revenue, current	2,669	1,781
Promissory notes - related party	—	420
Total current liabilities	11,250	16,040
Warrant liabilities	1,630	1,892
Operating lease liabilities, net of current portion	7,028	7,301
Loans payable, net, non-current (including \$31,400 and \$— as of December 31, 2023 and 2022, respectively, at fair value)	63,850	31,168
Deferred revenue, non-current	79	9
Total liabilities	\$ 83,837	\$ 56,410
Commitments and contingencies (Note 14)		
Stockholders' deficit:		
Common stock, par value \$0.0001 per share; 675,000,000 shares and unlimited shares authorized at December 31, 2023 and December 31, 2022, respectively; 161,113,744 shares and 113,335,530 shares issued and outstanding as of December 31, 2023 and December 31, 2022, respectively.	16	11
Additional paid-in capital	469,081	381,274
Accumulated deficit	(483,061)	(400,346)
Accumulated other comprehensive loss	(10,517)	(10,402)
Total stockholders' deficit	(24,481)	(29,463)
Total liabilities and stockholders' deficit	\$ 59,356	\$ 26,947

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

D-Wave Quantum Inc.
Consolidated Statements of Operations and Comprehensive Loss

<i>(In thousands, except share and per share data)</i>	Year ended December 31,	
	2023	2022
Revenue	\$ 8,758	\$ 7,173
Cost of revenue	4,136	2,923
Total gross profit	4,622	4,250
Operating expenses:		
Research and development	37,878	32,101
General and administrative	37,014	21,539
Sales and marketing	10,276	10,068
Total operating expenses	85,168	63,708
Loss from operations	(80,546)	(59,458)
Other income (expense), net:		
Interest expense	(37)	(2,335)
Change in fair value of Term Loan	640	—
Term Loan debt issuance costs	(2,118)	—
Change in fair value of warrant liabilities	262	6,173
Lincoln Park Purchase Agreement issuance costs	—	(629)
Other income (expense), net	(916)	2,547
Total other income (expense), net	(2,169)	5,756
Net loss	\$ (82,715)	\$ (53,702)
Net loss per share, basic and diluted	\$ (0.60)	\$ (0.45)
Weighted-average shares * used in computing net loss per share, basic and diluted	137,993,736	119,647,777
Comprehensive loss:		
Net loss	\$ (82,715)	\$ (53,702)
Foreign currency translation adjustment, net of tax	(115)	41
Net comprehensive loss	\$ (82,830)	\$ (53,661)

* Weighted-average shares have been retroactively restated to give effect to the Merger.

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

D-Wave Quantum Inc.
Consolidated Statements of Stockholders' Equity (Deficit)

	Stockholders' Equity (Deficit)							
	Non-redeemable convertible preferred stock		Common stock		Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive loss	Total stockholders' equity (deficit)
	Shares *	Amount	Shares *	Amount				
<i>(In thousands, except share data)</i>								
Balances at December 31, 2021	122,564,333	\$ 189,881	2,817,499	\$ —	\$ 148,850	\$ (346,644)	\$ (10,443)	\$ (18,356)
Issuance of common stock upon conversion of D-Wave Systems preferred stock in connection with the Merger (Note 3)	(122,564,333)	(189,881)	96,764,117	10	189,871	—	—	—
Issuance of common stock in connection with the Lincoln Park Purchase Agreement (Note 16)	—	—	2,260,346	—	7,596	—	—	7,596
Merger, net of redemptions and transaction costs (Note 3)	—	—	4,327,512	—	(16,242)	—	—	(16,242)
Issuance of common stock in connection with the PIPE Investment (Note 3)	—	—	5,816,528	1	39,999	—	—	40,000
Exercise of stock options	—	—	1,228,268	—	1,077	—	—	1,077
Exercise of warrants	—	—	121,261	—	959	—	—	959
Stock-based compensation	—	—	—	—	9,164	—	—	9,164
Foreign currency translation adjustment, net of tax	—	—	—	—	—	—	41	41
Net loss	—	—	—	—	—	(53,702)	—	(53,702)
Balances at December 31, 2022	—	\$ —	113,335,530	11	381,274	(400,346)	(10,402)	(29,463)
Issuance of common stock in connection with the Lincoln Park Purchase Agreement	—	—	42,147,838	4	63,672	—	—	63,676
Issuance of common stock in connection with the Employee Stock Purchase Plan	—	—	467,388	—	491	—	—	491
Issuance of common stock under stock-based compensation plans	—	—	5,162,988	1	1,897	—	—	1,898
Stock-based compensation	—	—	—	—	21,919	—	—	21,919
Tax withholding related to vesting of restricted stock units	—	—	—	—	(416)	—	—	(416)
Short-swing profit settlement	—	—	—	—	244	—	—	244
Foreign currency translation adjustment, net of tax	—	—	—	—	—	—	(115)	(115)
Net loss	—	—	—	—	—	(82,715)	—	(82,715)
Balances at December 31, 2023	—	\$ —	161,113,744	16	\$ 469,081	\$ (483,061)	\$ (10,517)	\$ (24,481)

* The shares of the Company's non-redeemable convertible preferred stock and common stock, prior to the Merger have been retrospectively restated to reflect the Conversion Ratio of 0.889657 (the "Conversion Ratio") established in the Merger.

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

D-Wave Quantum Inc.
Consolidated Statements of Cash Flows

<i>(in thousands)</i>	Year ended December 31,	
	2023	2022
Cash flows from operating activities:		
Net loss	\$ (82,715)	\$ (53,702)
Adjustments to reconcile net loss to cash used in operating activities:		
Depreciation and amortization	1,054	1,423
Allowance for doubtful accounts	—	1
Stock-based compensation	21,919	9,164
Amortization of operating right-of-use assets	791	910
Provision for excess and obsolete inventory	32	66
Non-cash interest (income) expense	(78)	185
Venture Loan interest and final payment fee	—	1,808
Amortization of Venture Loan commitment fee	—	(175)
Non-cash Lincoln Park Purchase Agreement issuance costs	—	629
Change in fair value of Warrant liabilities	(262)	(6,173)
Change in fair value of Term Loan	(640)	—
Debt issuance costs expensed for loans recorded under the fair value option	993	—
Unrealized foreign exchange loss (gain)	955	(2,459)
Realized loss on issuance of shares under the Lincoln Park Purchase Agreement	—	75
Change in operating assets and liabilities:		
Trade accounts receivable	(818)	(337)
Research incentives receivable	264	1,332
Inventories	(237)	(148)
Prepaid expenses and other current assets	1,636	(387)
Trade accounts payable	(2,614)	3,597
Accrued expenses and other current liabilities	(1,374)	715
Deferred revenue	958	(929)
Operating lease liability	(510)	(821)
Other non-current assets	(3)	—
Net cash used in operating activities	(60,649)	(45,226)
Cash flows from investing activities:		
Purchase of property and equipment	(583)	(423)
Purchase of software	(47)	(75)
Net cash used in investing activities	(630)	(498)
Cash flows from financing activities:		
Merger, net of redemption and transaction costs (Note 3)	—	4,100
Transaction costs paid directly by D-Wave Systems	—	(6,528)
Proceeds from issuance of common stock from the PIPE investment (Note 3)	—	40,000
Proceeds from exercise of Public Warrants	—	924
Proceeds from Lincoln Park Purchase Agreement	63,676	4,250
Proceeds from issuance of common stock upon exercise of stock options	1,897	1,077
Proceeds from common stock issued under the Employee Stock Purchase Plan	491	—
Payment of tax withheld for common stock issued under stock-based compensation plans	(416)	—
Short swing profit settlement	244	—
Proceeds from debt financing	29,007	20,000
Proceeds from government assistance	2,996	3,159

Government loan payment	(374)	(398)
Repayment of promissory notes - related party	(420)	—
Debt payments	(1,465)	(21,511)
Venture Loan interest and final payment fee	—	(1,808)
Net cash provided by financing activities	95,636	43,265
Effect of exchange rate changes on cash and cash equivalents	(115)	41
Net (decrease) increase in cash and cash equivalents	34,242	(2,418)
Cash and cash equivalents at beginning of period	7,065	9,483
Cash and cash equivalents at end of period	<u>\$ 41,307</u>	<u>\$ 7,065</u>
Supplemental disclosure of non-cash investing and financing activities:		
Inventory applied to capital projects	\$ 323	\$ —
Operating lease right-of-use assets recognized in exchange for new operating lease obligations	88	360
Increase in operating lease liability and right-of-use asset due to resolution of contingency	—	1,113
Purchases of property and equipment included in accounts payable	310	66
Initial value of promissory notes recognized in connection with closing of the Merger	—	420
Initial warrant liabilities recognized in connection with closing of the Merger	—	8,100
Non-cash Merger financing	—	5,294
Non-cash Directors and Officers Insurance	—	2,893
Issuance of shares for payment of Lincoln Park Purchase Agreement commitment fee	—	3,271
Conversion of convertible preferred stock to common stock	—	189,871

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

D-Wave Quantum Inc.
Notes to Consolidated Financial Statements

1. DESCRIPTION OF BUSINESS

D-Wave Quantum Inc. ("D-Wave" or the "Company") was incorporated as a corporation organized and existing under the General Corporation Law of the State of Delaware on January 24, 2022. The Company was formed for the purpose of effecting a merger between DPCM Capital, Inc. ("DPCM"), D-Wave Systems Inc. ("D-Wave Systems"), and certain other affiliated entities through a series of transactions (the "Merger" to the definitive agreement entered into on February 7, 2022 (the "Transaction Agreement"). On August 5, 2022, in conjunction with the Merger, DPCM and D-Wave Systems became wholly-owned subsidiaries of, and are operated by, the Company. Upon the completion of the Merger, the Company succeeded to all of the operations of its predecessor, D-Wave Systems.

The company specializes in commercializing annealing quantum computing systems and offers real-time quantum computing as a service (QCaaS) available in 39 countries. The Company possess deep scientific and technical capabilities in hardware and software, enabling it to support business applications at production scale. For the year ended December 31, 2023, approximately 70 percent of the Company's revenue comes from commercial customers across various industries such as financial services, manufacturing, automotive, pharmaceutical, information technology, retail, and professional services.

2. BASIS OF PRESENTATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The Company has prepared the accompanying consolidated financial statements in accordance with the accounting principles generally accepted in the United States of America ("U.S. GAAP"). Any reference in these notes to applicable guidance is meant to refer to the authoritative U.S. GAAP as found in the Accounting Standards Codification ("ASC") and Accounting Standards Updates ("ASUs") of the Financial Accounting Standards Board ("FASB") and pursuant to the regulations of the U.S. Securities and Exchange Commission ("SEC").

The Merger was accounted for as a reverse recapitalization in accordance with U.S. GAAP. Under this method of accounting, DPCM, as a direct wholly-owned subsidiary of D-Wave, who was the legal acquirer, was treated as the "acquired" company for financial reporting purposes and D-Wave Systems was treated as the accounting acquirer. This determination was primarily based on the following factors: (i) D-Wave Systems' existing stockholders had the majority of the voting interest in the combined entity with an approximate 91% voting interest; (ii) the combined company's board of directors consisted of seven board members with one board member designated by DPCM, three board members retained from the D-Wave Systems' board, and three additional independent board members; (iii) D-Wave Systems' senior management comprised all the senior management of the combined company; and (iv) D-Wave Systems' existing operations comprised the ongoing operations of the combined company. In accordance with guidance applicable to these circumstances, the Merger was treated as the equivalent of D-Wave Systems issuing stock for the net assets of DPCM, accompanied by a recapitalization. The net assets of DPCM were stated at historical cost, with no goodwill or other intangible assets recorded. Operations prior to the Merger were those of D-Wave Systems.

As a result, the consolidated financial statements included herein for the year ended December 31, 2022 reflected (i) the historical operating results of D-Wave Systems prior to the Merger, (ii) the combined results of the Company, D-Wave Systems and DPCM following the closing of the Merger, (iii) the assets and liabilities of D-Wave Systems at their historical costs, (iv) the assets and liabilities of the Company and DPCM at their historical costs, which approximated fair value, and (v) the Company's equity structure for all periods presented.

In accordance with ASC 805 guidance applicable to these circumstances, the equity structure has been restated in all comparative periods up to the closing date of the Merger, to reflect the number of the Company's shares of common stock, par value \$0.0001 ("Common Shares") issued to D-Wave Systems' stockholders in connection with the recapitalization transaction. As such, the Common Shares and the corresponding capital amounts and earnings per share related to D-Wave Systems' common stock prior to the Merger have been retrospectively restated as shares reflecting the conversion ratio established in the Merger.

Principles of Consolidation

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

Liquidity and Going Concern

The Company has prepared its consolidated financial statements assuming that it will continue as a going concern. Since its inception, the Company has incurred net losses and negative cash flows from operations. As of December 31, 2023, the Company had an accumulated deficit of \$483.1 million. For the years ended December 31, 2023 and 2022, the Company incurred a net loss of \$82.7 million and \$53.7 million, respectively, and the Company had net cash outflows from operating activities of \$60.6 million and \$45.2 million, respectively. As of December 31, 2023, the Company had cash of \$41.3 million and working capital (current assets less current liabilities) of \$35.8 million. Additionally, total liabilities exceeded total assets at December 31, 2023 by \$24.5 million. The Company expects to incur additional operating losses and negative cash flows from operating activities as it continues to expand its commercial operations and research and development programs.

On August 5, 2022, the Company completed a Merger with DPCM. The Company received gross proceeds of \$49.0 million from the PIPE Investment (as defined below) and the DPCM trust account. Of the gross proceeds, \$21.8 million were used to repay the Venture Loan obligations and \$14.2 million were used to pay for the Company's transaction costs, including DPCM's transaction costs, associated with the Merger.

On April 13, 2023 (the "Closing Date"), the Company entered into a Term Loan and Security Agreement (the "Term Loan"), by and between the Company and PSPIB Unitas Investments II Inc., ("PSPIB" or the "Lender"), a related party to the Company's largest shareholder. As further described in Note 8 - Loans payable, net, the Term Loan provides for an aggregate principal amount of \$50.0 million to be made available to the Company in three tranches, subject to certain terms and conditions as defined in the Term Loan, including a financial covenant that measures the Company's revenue against certain minimum percentages of budgeted revenue per quarter. The first two tranches of the Term Loan, each amounting to \$15.0 million in principal, were advanced to D-Wave on April 14, 2023 and July 13, 2023, respectively. The Lender agreed to modify certain conditions to the funding of the second tranche of the Term Loan, including delaying the delivery of a board-approved operating budget and plan for the Company's fiscal years 2023 through 2027 to August 31, 2023 (later extended to December 31, 2023); modifying the condition that, prior to the funding of the second tranche, the Company shall have nominated an additional director that is either an employee of PSPIB or an independent director selected from PSPIB nominees to require such appointment at a later time at PSPIB's option; and modifying notice deadline requirements for the registration or filings of intellectual property. PSPIB has also agreed to waive certain covenants under the Term Loan that the Company did not meet, including the minimum revenue financial covenant for the second and third fiscal quarters ended June 30, 2023 and September 30, 2023, respectively. The availability of the third tranche of \$20.0 million was subject to the satisfaction of certain conditions, including the closing of a \$25.0 million non-dilutive financing on terms reasonably acceptable to the Lender, the intellectual property valuation report submitted as a condition precedent to the second tranche remaining satisfactory to the Lender and the board-approved operating budget for 2023 through 2027 to be submitted by December 31, 2023, being satisfactory to the Lender. The Company submitted the board-approved operating budget by December 31, 2023 and it was subsequently approved by the Lender. There can be no assurance that the Company will be able to meet the conditions necessary to draw on the third tranche or will be able to comply with the covenants of the Term Loan, or that PSPIB will agree to waive covenants under the Term Loan in the future. As of December 31, 2023, the Company was in compliance with the covenants under the Term Loan.

In conjunction with the Merger, the Company and D-Wave Systems entered into a purchase agreement with Lincoln Park on June 16, 2022 (the "Purchase Agreement" or the "Purchase Agreement") which provides D-Wave the sole right, but not the obligation, to direct Lincoln Park to buy specified dollar amounts up to \$150 million of D-Wave's common stock, par value \$0.0001 per share through November 1, 2025. The Purchase Agreement may provide the Company and D-Wave with additional liquidity to fund the business, subject to the conditions set forth in the agreement, including volume limitations tied to periodic market prices, ownership limitations restricting Lincoln Park from owning more than 9.9% of the then total outstanding Common Shares and a floor price of \$1.00 at or below which the Company may not sell to Lincoln Park any Common Shares. When the Company sells shares to Lincoln Park, Lincoln Park may resell all, some, or none of those Common Shares at any time or from time to time in its discretion. During the year ended December 31, 2023, the Company has received \$63.7 million in proceeds through the issuance of 42,147,838 Common Shares to Lincoln Park under the Purchase Agreement. In order for the Company to issue Common Shares under the Purchase Agreement, the Company's share price must be above the floor price of \$1.00. There is no assurance that the floor price will not fall below \$1.00 preventing the Company from being able to make sales to Lincoln Park in the future.

To the extent that sufficient capital is not obtained through the cash received in connection with the proceeds of the Term Loan or the issuance of Common Shares under the Purchase Agreement with Lincoln Park, management will be required to obtain additional capital through the issuance of debt and/or equity, or other arrangements. However, there can be no assurance that D-Wave will be able to raise additional capital when needed or under acceptable terms. The issuance of additional equity may dilute existing stockholders and newly issued shares may contain senior rights and preferences compared to the currently outstanding common stock. Any future debt may contain covenants and limit D-Wave's ability to pay dividends or make other distributions to stockholders. If D-Wave is unable to obtain additional financing, operations will be scaled back or discontinued.

As of December 31, 2023, the Company was not in compliance with certain continued listing standards of the New York Stock Exchange ("NYSE"). On March 1, 2024, the NYSE provided D-Wave with a notification letter of recompliance (see Note 19).

If the Company is unable to maintain compliance with the continued listing standards of the NYSE and is not able to cure any violations within the time periods allotted by the NYSE, if any, it will result in the delisting of the Company's common stock from the NYSE, which could negatively impact the trading price, trading volume and liquidity of, and have other material adverse effects on, the Company's common stock and its ability to raise capital.

In connection with the Company's assessment of going concern considerations in accordance with Financial Accounting Standard Board's Accounting Standards Codification ("ASC") Topic 205-40, "*Basis of Presentation—Going Concern*", management has determined that the Company's liquidity condition raises substantial doubt about the Company's ability to continue as a going concern, which is considered to be for a period of one year from the issuance of these financial statements. These consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of this uncertainty. Such adjustments could be material.

Use of estimates

The preparation of the consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, revenues and expenses and the disclosure of contingent assets and liabilities in the Company's consolidated financial statements and accompanying notes as of the date of the consolidated financial statements. The most significant estimates and assumptions are used in determining: (i) inputs used to recognize revenue over time relating to hours estimated to complete the remaining performance obligations, (ii) fair value of financial instruments, and (iii) long term revenue forecasts used in the accounting for the SIF Loan (see Note 8). These estimates and assumptions are based on current facts, historical experience and various other factors believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities and the recording of expenses that are not readily apparent from other sources. On an ongoing basis, management evaluates its estimates as there are changes in circumstances, facts, and experience.

The Company's accounting estimates and assumptions may change over time in response to risks and uncertainties, including uncertainty in the current economic environment due to inflation, increased interest rates, Ukraine/Russia conflict, the Israel-Hamas War, and any evolutions thereof. The change could be material in future periods. As of the date of issuance of these consolidated financial statements, the Company is not aware of any specific event or circumstances that would require the Company to update estimates, judgments or revise the carrying value of any assets or liabilities. Actual results may differ from those estimates or assumptions.

Public Warrants and Private Warrants

The Company evaluated its outstanding warrants which were issued in exchange for (i) the warrants initially included in the DPCM units (the "Units") issued in DPCM's initial public offering (the "Public Warrants"), and (ii) the warrants of DPCM held by CDPM Sponsor Group, LLC (the "Sponsor") that were issued to the Sponsor at the closing of DPCM's initial public offering (the "Private Warrants," and together with the Public Warrants, the "Warrants"), which are discussed in Note 11 - Warrant liabilities, in accordance with ASC 815-40, "*Derivatives and Hedging - Contracts in Entity's Own Equity*."

The Private Warrants do not meet the derivative scope exception and are accounted for as derivative liabilities. Specifically, the Private Warrants contain provisions that cause the settlement amounts to be dependent upon the characteristics of the holder of the warrant which is not an input into the pricing of a fixed-for-fixed option on equity shares. Therefore, the Private Warrants are not considered indexed to the Company's stock and should be classified as a liability. Since the Private Warrants meet the definition of a derivative, the Company recorded the Private Warrants as liabilities on the consolidated balance sheet at fair value upon the Closing, with subsequent changes in the fair value recognized in the consolidated statements of operations and comprehensive loss at each reporting date. The measurements of the Private Warrants after the detachment of the Public Warrants from the Units are classified as Level 2 fair value measurements due to the use of an observable market quote for the Public Warrants, which are considered to be a similar asset in an active market.

The Public Warrants also do not meet the indexation guidance in ASC 815-40 and are accounted for as liabilities as the Public Warrants include a provision whereby in a scenario on which there is not an effective registration statement, the warrant holders have a cap, 0.361 Common Shares per warrant (subject to adjustment), on the issuable number of shares in a cashless exercise. The measurements of the Public Warrants after the detachment of the Public Warrants from the Units are classified as Level 1 fair value measurements due to the use of an observable market quote in an active market.

The Company determines the accounting classification of warrants that are issued, as either liability or equity, by first assessing whether the warrants meet liability classification in accordance with ASC 480, *Distinguishing Liabilities from Equity* ("ASC 480"), and then in accordance with ASC 815, *Derivatives and Hedging* ("ASC 815"), depending on the specific terms of the warrant agreement. Under ASC 480, warrants are considered liability classified if the warrants are mandatorily redeemable, obligate the issuer to settle the warrants or the underlying shares by paying cash or other assets, or must or may require settlement by issuing variable number of shares.

If warrants do not meet liability classification under ASC 480, the Company assesses the requirements under ASC 815, which states that contracts that require or may require the issuer to settle the contract for cash are liabilities recorded at fair value, irrespective of the likelihood of the transaction occurring that triggers the net cash settlement feature. If the warrants do not require liability classification under ASC 815, in order to conclude equity classification, the Company assesses whether the warrants are indexed to its common stock and whether the warrants are classified as equity under ASC 815 or other applicable GAAP. After all relevant assessments are made, the Company concludes whether the warrants are classified as liability or equity. Liability classified warrants are required to be accounted for at fair value both on the date of issuance and on subsequent accounting period ending dates, with all changes in fair value after the issuance date recorded in the statements of operations as a gain or loss. For equity classified warrants, no changes in fair value are recognized after the issuance date.

Operating segments

Operating segments are defined as components of an enterprise for which separate discrete information is available for evaluation by the chief operating decision maker, or decision-making group, in deciding how to allocate resources and in assessing performance. The Company's Chief Executive Officer, who is the chief operating decision maker, reviews financial information on an aggregate basis for allocating resources and evaluating financial performance. As such, the Company views its operations and manages its business in one operating and reportable segment. See Note 17 - Geographic areas for additional information.

Foreign currency translation and transactions

The Company's reporting currency is the U.S. dollar. The functional currency of the Company's international subsidiaries is the currency of their primary economic environment. All balance sheet accounts of subsidiaries where the functional currency is not the U.S. dollar have been translated into U.S. dollars using the rate of exchange at the respective balance sheet date. Components of the consolidated statements of operation and comprehensive loss have been translated at the average exchange rate for the year or the corresponding period. Translation gains and losses are recorded in accumulated other comprehensive loss as a component of stockholders' equity. Gains or losses arising from currency exchange rate fluctuations on transactions denominated in a currency other than the local functional currency are included in the consolidated statements of operations and comprehensive loss. For the years ended December 31, 2023 and 2022, the Company recorded a foreign currency transaction loss of \$1.0 million and gain of \$2.4 million, respectively, in other income in its consolidated statements of operations and comprehensive loss.

Comprehensive loss

Comprehensive loss consists of two components, net loss and other comprehensive loss. The Company's other comprehensive loss consists of foreign currency translation adjustments that result from consolidation of its foreign entities.

Cash

The Company considers all highly liquid investments purchased with an original maturity of 3 months or less to be cash equivalents. As of December 31, 2023 and 2022, cash consisted exclusively of demand deposits. The Company regularly maintains deposits with large and reputable financial institutions in excess of amounts insured by the Federal Deposit Insurance Corporation and the Canadian Deposit Insurance Corporation. These deposits may be redeemed upon demand. The Company performs periodic evaluations of the relative credit standing of the financial institutions.

Trade accounts receivable, net

The Company's accounts receivable consists principally of billed and currently due from customers and represents our unconditional rights to consideration arising from our performance under our customer contracts. These receivables are generally due within 30 days of the period in which the corresponding sales occur and do not bear interest are classified as trade accounts receivable, net on the consolidated balance sheets. Trade accounts receivable are reported at their estimated net realizable value.

The Company maintains an allowance for doubtful accounts that is calculated under the current expected credit loss ("CECL") model. The CECL model applies to financial assets measured at amortized cost, and requires the Company to reflect expected credit losses over the remaining contractual term of the asset. As the large majority of the Company's receivables settle within 30 days, the forecast period under the CECL model is a relatively short horizon. The Company uses an aging method to estimate allowances for doubtful accounts under the CECL model as the Company has determined that the aging method adequately reflects expected credit losses, as corroborated by historical loss rates. Past due trade accounts receivable balances are written off when collection efforts have been exhausted. Write-offs were immaterial during the years ended December 31, 2023 and 2022.

Investment in securities

The company holds investments in privately held companies, which are valued based on their original cost. Adjustments are made for observable price changes in orderly transactions involving identical or similar securities of the same issuer, as there are no quoted market prices available.

Inventories

Inventories are stated at the lower of cost, using the weighted average cost method, or net realizable value. Inventory that is obsolete or in excess of forecasted usage is written down to its estimated net realizable value based on the assumptions about future demand and market conditions. Inventory write-downs are charged to cost of revenue and establish a new cost basis for the inventory. Inventories include raw materials, which consist of parts and supplies used in the Company's manufacturing process and research and development activities as well as service parts for the Company's quantum computer systems, work-in-process and finished goods.

Property and equipment, net

Property and equipment are stated at cost less accumulated depreciation and impairment. Depreciation is recognized using the straight-line method over the estimated useful lives of the depreciable property, or for leasehold improvements, the remaining term of the lease, whichever is shorter. Costs for capital assets not yet placed into service are capitalized as construction-in-progress and depreciated once placed into service. The Company's estimated useful lives of its property and equipment are as follows.

Quantum computer systems	5 years
Lab equipment	5 years
Computer equipment	3 years
Furniture and fixtures	5 years
Leasehold improvements	Shorter of expected lease term or estimated useful life

Upon sale or retirement of the assets, the cost and related accumulated depreciation are removed from the accounts and the resulting gain or loss is recognized in the statement of operations and comprehensive loss. Expenditures for general maintenance and repairs are expensed as incurred.

Intangible assets, net

The Company's intangible assets consist of acquired computer software, including off-the-shelf software applications as well as costs associated with systems' implementations. Computer software is stated at cost less accumulated amortization and impairment. Off-the-shelf software is amortized on a straight-line basis over three years while the costs of implementing systems are amortized over the initial license term. Annual license fees for off-the-shelf software are expensed as incurred.

Internally developed software

Costs related to the formulation and design of internally developed software are expensed as incurred to research and development.

Impairment of long-lived assets

Long-lived assets, such as property and equipment and other long-term assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If circumstances require a long-lived asset or asset group to be tested for possible impairment, the Company first compares undiscounted cash flows expected to be generated by that asset or asset group to its carrying amount. If the carrying amount of the long-lived asset or asset group is not recoverable on an undiscounted cash flow basis, an impairment is recognized to the extent the carrying amount of the underlying asset exceeds its fair value.

The Company did not record any impairment loss on long-lived assets during the years ended December 31, 2023 and 2022.

Sales of future revenues

On November 20, 2020, the Company entered into an agreement with the Canada Strategic Innovation Fund ("SIF"), wherein SIF committed to providing a conditionally repayable loan to the Company in the amount of up to C\$40.0 million ("the SIF Loan"). The SIF Loan is conditionally repayable according to a revenue-based formula. See Note 8 for additional information concerning the SIF Loan.

The accounting treatment for the SIF Loan considers the "sale of future revenues" guidance outlined in ASC 470-10-25. The debt arising from the SIF Loan was recorded at face value and will be amortized using the effective interest method, leading to the accrual of interest expenses over the estimated term of the SIF Loan. The amortization schedule is based on projected cash flows derived from the Company's long-term revenue forecast. Subsequent changes in forecasted cash flows will be accounted for under the catch-up method, which entails adjusting the accrued interest portion of the principal balance through earnings to reflect the effective interest rate. The liability is classified as non-current, as the current forecast indicates that repayments will not commence within the 12 months following the balance sheet date.

As the SIF Loan is originated through a government program, a market rate of interest is not imputed in accordance with the scope limitations of ASC 835.

Term Loan fair value option election

The Company determined that it is eligible for the fair value option election in connection with the Term Loan. The Term Loan meets the definition of a "recognized financial liability" which is an acceptable financial instrument eligible for the fair value option under ASC 825. At the date of issuance, the fair value of the Term Loan was derived from the instrument's implied discount rate at inception. The fair value option election was made to enhance the relevance and transparency of information presented related the features embedded in the Term Loan.

Changes in the fair value of the Term Loan, other than changes associated with the Company's own credit risk, are recorded as gains or losses in the Company's consolidated statements of operations and comprehensive loss in each reporting period. Changes in fair value attributable to the Company's own credit risk are recorded in other comprehensive income or loss in the Company's consolidated statements of operations and comprehensive loss in each reporting period; there have been no such changes for the year ended December 31, 2023. Under the fair value option, debt issuance costs are recorded in other expense in the Company's consolidated statements of operations and comprehensive loss.

The Term Loan is subject to certain repayment and prepayment provisions which the Company has considered in their valuation analysis. The valuation analysis performed as of the issuance date on April 13, 2023 and December 31, 2023 did not consider any amendments to the Term Loan that occurred subsequent to December 31, 2023 (See Note 8). To estimate the fair value of the Term Loan under the optional prepayment scenario, we have utilized the binomial lattice model. Additionally, we have employed a Monte Carlo simulation model to forecast both the probability for an event of default in the valuation analysis which would result in a mandatory prepayment of the outstanding principal and accrued and unpaid interest and the probability of the issuance of Common Shares under the Purchase Agreement to determine the estimated proceeds to be paid to the Lender along with a mandatory prepayment premium of 10%.

Fair value of financial instruments

Certain assets and liabilities are carried at fair value under U.S. GAAP. 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. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. Financial assets and liabilities carried at fair value are to be classified and disclosed in one of the following three levels of the fair value hierarchy, of which the first two are considered observable and the last is considered unobservable:

- Level 1—Quoted prices in active markets for identical assets or liabilities.
- Level 2—Observable inputs (other than Level 1 quoted prices), such as quoted prices in active markets for similar assets or liabilities, quoted prices in markets that are not active for identical or similar assets or liabilities, or other inputs that are observable or can be corroborated by observable market data.
- Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of the assets or liabilities, including pricing models, discounted cash flow methodologies and similar techniques.

The categorization of a financial instrument within the valuation hierarchy is based on the lowest level of input that is significant to the fair value measurement. The Company recognizes transfers between levels of the fair value hierarchy on the date of the event or change in circumstances that caused the transfer. The Company did not transfer any assets or liabilities in or out of Level 3 during the years ended December 31, 2023 or 2022.

The following table presents information about the Company’s liabilities that are measured at fair value on a recurring basis as of December 31, 2023 and indicates the place in the fair value hierarchy of the valuation inputs the Company utilized to determine each such fair value (in thousands):

Description	Level	December 31, 2023
Liabilities:		
Warrant Liabilities – Public Warrants	1	\$ 902
Warrant Liabilities – Private Placement Warrants	2	\$ 728
Term Loan	3	\$ 31,400

The Warrants are accounted for as liabilities in accordance with ASC 815-40 and are presented within warrant liabilities in the consolidated balance sheets. The warrant liabilities are measured at fair value at inception and on a recurring basis, with changes in fair value presented within change in fair value of warrant liabilities in the consolidated statements of operations.

For periods subsequent to the detachment of the Public Warrants from the Units, the close price of the Public Warrants was used as the fair value of the Warrants as of each relevant date. The subsequent measurements of the Public Warrants after the detachment of the Public Warrants from the Units are classified as Level 1 fair value measurements due to the use of an observable market quote in an active market. The subsequent measurements of the Private Warrants after the detachment of the Public Warrants from the Units are classified as Level 2 fair value measurements due to the use of an observable market quote for the Public Warrants, which are considered to be a similar asset in an active market.

As noted above, the Company elected the fair value option for the Term Loan. The Monte Carlo simulation used to determine the fair value of the Term Loan is considered a Level 3 valuation method.

Leases

The Company determines if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use (“ROU”) assets and current operating lease liabilities and operating lease liabilities, net of current portion on the Company’s consolidated balance sheets. As of December 31, 2023 and 2022, the Company had no financing lease arrangements. The Company recognizes lease expense for its operating leases on a straight line basis over the term of the lease.

ROU assets represent the Company’s right to use an underlying asset for the lease term and lease liabilities represent the Company’s obligation to make lease payments arising from a lease. ROU assets and operating lease liabilities are recognized at the commencement date based on the present value of the future minimum lease payments over the lease term. Operating lease ROU assets also include the impact of any lease incentives. Amendments to a lease are assessed to determine if it represents a lease modification or a separate contract. Lease modifications are reassessed as of the effective date of the modification using an incremental borrowing rate based on the information available at the commencement date. For modified leases, the Company also reassesses the lease classification as of the effective date of the modification.

The interest rate used to determine the present value of the future lease payments is generally the Company’s incremental borrowing rate, because the interest rate implicit in the Company’s leases is usually not readily determinable. The incremental borrowing rate is estimated to approximate the Company's cost of borrowing on a collateralized basis with similar terms and payments, and in the economic environments where the leased assets are located.

The Company’s lease terms include periods under options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option in the measurement of its ROU assets and liabilities. The Company considers contractual factors such as the nature and terms of the renewal or termination, asset-based factors such as physical location of the asset and entity-based factors such as the importance of the leased asset to the Company’s operations to determine the lease term. The right-of-use assets are tested for impairment at least annually.

Revenue recognition

The Company recognizes revenue in accordance with Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* and accounts for certain contract costs in accordance with FASB’s Accounting Standards Codification (“ASC”) 340-40, *Other Assets and Deferred Costs-Contracts with Customers*.

The core principle of ASC 606 is that an entity shall recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services.

To support this core principle, the Company applies the following five step approach:

Step 1: Identify the contract with the customer

The Company executes signed contracts with customers for services sold through either its direct sales force or various reseller channels. Payment terms on invoiced amounts are typically net 30 days or less. The Company does not offer rights of return for its services in the normal course of business.

In arrangements with re-sellers of the Company's services, the re-seller is considered the customer and the Company does not have any contractual relationships with the re-sellers' end users. For these arrangements, revenue is recognized at the amount charged to the re-seller.

Upon initiation of a customer contract, an assessment is conducted by the Company regarding the customer's ability to pay for the services rendered. This assessment encompasses various factors such as the customer's creditworthiness and past transaction history. Furthermore, periodic evaluations of customers' financial conditions are performed by the Company.

Step 2: Identify the performance obligations

The Company's contracts with customers often include multiple performance obligations. The Company's performance obligations are as follows:

- *Subscription sales to access its QCaaS cloud platform*
- *Professional services related to the development and implementation of quantum computing applications*
- *Quantum computing application training*
- *Application support and maintenance*
- *Printed circuit boards.*

Our contracts with customers may include renewals or other options at fixed prices, which typically do not represent a significant discount. Based on our assessment of standalone selling prices, we determined that there were no significant material rights provided to our customers requiring separate recognition.

Step 3: Determine the transaction price

The transaction price is the amount of consideration to which the Company expects to be entitled in exchange for transferring goods and services to the customer. The price for the Company's offerings is fixed and stated in the contract with the customer. The Company has elected the practical expedient terms that permit an entity not to recognize a significant financing component if the time between the transfer of a good or service and payment is one year or less. The Company excludes from revenue government-assessed and imposed taxes on goods and services that are invoiced to customers.

Step 4: Allocate the transaction price to the performance obligations

When the Company determines that its contracts with customers contain multiple performance obligations, for these arrangements, the Company allocates the transaction price based on the relative standalone selling price ("SSP") basis method by comparing the SSP of each distinct performance obligation to the total value of the contract. The Company uses SSP for products and services sold together in a contract to determine whether there is a variable consideration (e.g. discount) to be allocated based on the relative SSP of the various products and services. In instances where SSP is not directly observable, such as when the Company does not sell the product or service separately, the Company determines the SSP by considering its overall pricing objectives and market conditions, including cost plus a reasonable margin. Significant pricing practices taken into consideration include the Company's discounting practices, the customer demographic, price lists, the Company's go-to-market strategy, historical and current sales, and contract prices. In instances where the Company does not sell or price a product or service separately, the Company maximizes the use of observable inputs by using information that may include market conditions.

Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation

The Company's QCaaS cloud platform and support and maintenance services are obligations that are satisfied over time by providing the customer with ongoing access to the Company's resources. The Company uses the straight-line measure of progress to recognize revenue as these performance obligations are satisfied evenly over the respective service periods. The Company's professional services constitute an activity that creates benefits that the customer receives as the work is being performed. Therefore, professional services revenue is recognized over time using the labor hours incurred as input measure of progress. The Company's training and circuit board performance obligations are satisfied at a point in time when control of the goods or service transfers from the Company to the customer.

Contract assets and contract liabilities

The timing of revenue recognition, billings and cash collections may result in accounts receivable, contract assets, and contract liabilities (deferred revenue) on the Company's consolidated balance sheets. A receivable is recorded in the period in which the Company provides services when it has an unconditional right to payment. Contract assets primarily relate to the value of services transferred to the customer for which the right to payment is not just dependent on the passage of time, such as when unbilled receivables are recorded for revenue recognized for work completed under professional services contracts for which the related milestone billing has not yet occurred. Contract assets are transferred to accounts receivable when rights to payment become unconditional.

A contract liability is recognized when the Company receives payment or has an unconditional right to payment in advance of the satisfaction of performance. The contract liabilities represent deferred service revenue, which is recorded when the Company receives consideration, or such consideration is unconditionally due, from a customer prior to transferring services to the customer under the terms of a contract. Deferred service revenue typically results from fees related to the Company's QCaaS platform.

The Company has elected to apply the practical expedient to expense contract acquisition costs as incurred when the expected amortization period is one year or less. The Company has not identified any material costs that are incremental to the acquisition of customer contracts that would be capitalized as deferred costs on the balance sheet in accordance with ASC 340-40. Accordingly, the Company has not capitalized any contract acquisition costs as of December 31, 2023 and 2022.

Cost of revenue

Cost of revenue consists of expenses related to delivering the Company's services, which includes direct services costs and direct labor costs, including stock-based compensation, as well as depreciation and amortization related to the Company's quantum computing systems and related software. These costs of revenue are expensed as incurred as they relate to performance obligations that are being simultaneously satisfied as the work is performed

Research and Development

Research and development expenses consist of personnel costs, including stock-based compensation expense, and allocated shared resource costs for the Company's hardware, software and engineering personnel who design and develop the Company's quantum computing systems and research new quantum computing technologies. Research and development expenses also include purchased hardware and software costs related to quantum computing systems constructed for research purposes that are not probable of providing future economic benefit and have no alternate future use.

Advertising costs

Advertising costs are expensed as incurred and are included in sales and marketing expenses in the consolidated statements of operations. These costs totaled \$0.3 million and \$0.8 million for the years ended December 31, 2023 and 2022, respectively.

Stock-based compensation

The Company accounts for its stock-based compensation in accordance with ASC 718, Compensation—Stock Compensation (ASC 718). ASC 718 requires all stock-based payments to employees and directors to be recognized as expense based on the estimated fair value of the awards as of the grant date. The Company uses the Black-Scholes option-pricing model to estimate the grant date fair value of its stock option awards, and the Company uses the quoted market closing price of its common stock as reported on the New York Stock Exchange as the grant date fair value for Restricted Stock Units (RSUs). Stock-based compensation expense is recognized over the requisite service period using the straight-line method and is based on the value of the portion of stock-based payment awards that is ultimately expected to vest. As such, the Company's stock-based compensation is reduced for the estimated forfeitures at the grant date and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

The Black-Scholes option-pricing model requires the use of subjective assumptions, which determine the estimated fair value of share-based awards, including the option's expected term, the price volatility of the underlying Common Shares, risk-free interest rates, and the expected dividend yield of the Common Shares. The assumptions used to determine the fair value of the stock awards represent management's best estimates. As there is limited quoted price history for the Company's Common Shares, the Company has estimated the volatility of the Company's Common Shares using comparable publicly-traded peer companies. The Company's estimates involve inherent uncertainties and the application of judgment.

Income taxes

The Company accounts for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the estimated future tax consequences of events that have been included in the consolidated financial statements or in the Company's tax returns. Under this method, deferred tax assets and liabilities are determined on the basis of the differences between the financial statements and tax bases of assets and liabilities using the enacted tax rates and laws in effect for the years in which the differences are expected to reverse. Deferred income taxes are classified as current or non-current, based on the classification of the related assets and liabilities giving rise to the temporary differences. A valuation allowance is provided when it is more likely than not that some portion or all of a deferred tax asset will not be realized. In assessing the need for a valuation allowance, the Company considers factors such as past operating results and expected future taxable income within each jurisdiction in which the Company operates.

To the extent that new information becomes available, which causes the Company to change its judgment regarding the adequacy of tax liabilities or valuation allowances, such changes will impact income tax expense in the period in which such determination is made. Interest and penalties, if any, related to accrued liabilities for potential tax assessments are included in income tax expense.

Tax benefits related to uncertain tax positions are recognized when it is more likely than not that a tax position will be sustained during an audit. Interest and penalties related to unrecognized tax benefits are included within the provision for income tax.

Net income (loss) per share

Basic net loss per common share is computed by dividing the net loss available to common stockholders (the numerator) by the weighted-average number of common shares outstanding (the denominator) during the period. Diluted net loss per common share is computed by dividing the net loss available to common stockholders adjusted by any preferred stock dividends declared during the period by the weighted average number of common stock and potential common shares outstanding when the impact is not antidilutive. Contingently issuable shares are included in basic Earnings Per Share ("EPS") only when there is no circumstance under which those shares would not be issued. Shares issuable for little or no cash consideration shall be considered outstanding common shares and included in the computation of basic EPS.

Government assistance

The Company receives various forms of government assistance including (i) government grants, (ii) investment credits, and (iii) conditionally repayable loans with below-market interest rates (see "*Sales of future revenues*" above).

The Company recognizes grants and investment tax credits relating to qualifying scientific research and development expenditures as a reduction of the related eligible expenses (research and development expenses) in its consolidated statement of operations and comprehensive loss. Grants and investment tax credits are recognized in the period during which the related qualifying expenses are incurred, provided that the conditions under which the grants and investment tax credits have been met. The Company recognizes grants and investment tax credits in an amount equal to the estimated qualifying expenses incurred in each period multiplied by the applicable reimbursement percentage. Grants and investment tax credits that are recognized upon incurring qualifying expenses in advance of receipt of grant funding or proceeds from research and development incentives are recorded in the consolidated balance sheets as research incentives receivable. In circumstances where the grants received relate to prior period eligible expenses, the Company recognizes them as government assistance in its consolidated statement of operations and comprehensive loss in the current period.

During the year ended December 31, 2022, the Company recorded Scientific Research and Experimental Development ("SR&ED") investment tax credits of \$0.1 million, as an offset to its research and development expenses in its consolidated statements of operations and comprehensive loss. Upon entering into the transaction agreement on February 7, 2022, the Company is no longer a Canadian Controlled Private Corporation. As a result, beginning February 7, 2022, SR&ED investment tax credits can be applied to reduce income taxes payable to the Canadian government and any such investment tax credits that are not realized will be reflected as investment tax credit carryforwards. During year ended December 31, 2023, the Company did not record any SR&ED investment tax credits.

Recent accounting pronouncements issued and adopted

No recently issued accounting pronouncements that the Company has adopted have had a material effect on the Company's results of operations, cash flows or financial condition.

Recent accounting pronouncements not yet adopted

Segment Reporting

In November 2023, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2023-07, Segment Reporting--Improvements to Reportable Segment Disclosures, which requires incremental disclosures about a public entity’s reportable segments but does not change the definition of a segment or the guidance for determining reportable segments. The new guidance requires disclosure of significant segment expenses that are (1) regularly provided to (or easily computed from information regularly provided to) the chief operating decision maker and (2) included in the reported measure of segment profit or loss. The new standard also allows companies to disclose multiple measures of segment profit or loss if those measures are used to assess performance and allocate resources. The guidance will first be effective in our annual disclosures for the year ending December 31, 2024, and will be adopted retrospectively unless impracticable. Early adoption is permitted. We are in the process of assessing the impact of ASU 2023-07 on our disclosures.

Income Tax Disclosures

In December 2023, the FASB issued ASU 2023-09, Improvements to Income Tax Disclosures, which requires disaggregated information about our effective tax rate reconciliation as well as information on income taxes paid. The new guidance will first be effective in our annual disclosures for the year ending December 31, 2025, and should be applied on a prospective basis with the option to apply retrospectively. Early adoption is permitted. We are in the process of assessing the impact of ASU 2023-09 on our disclosures.

3. MERGER

As discussed in Note 2 - Basis of Presentation and Summary of Significant Accounting Policies, on August 5, 2022, the Company completed the Merger. Upon the closing of the Merger, the following occurred:

- Each non-redeeming share of DPCM Class A common stock was converted into the right to receive 1.4541326 Common Shares (the “Exchange Ratio”), such that 902,213 shares of DPCM Class A common stock that were not redeemed were exchanged for 1,311,937 Common Shares;
- All outstanding warrants of DPCM were converted into the right to receive Warrants. Each such Warrant is exercisable for 1.4541326 Common Shares, at any time commencing on September 4, 2022, the date that was 30 days after the completion of the Merger. The number of Common Shares received upon the exercise of Warrants will be rounded down to the nearest whole number of Common Shares;
- 3,015,575 shares of DPCM Class B common stock held by Sponsor and DPCM’s officers, directors and other special advisors were converted into Common Shares on a one-for-one basis; and
- Pursuant to an arrangement effected under Part 9, Division 5 of the Business Corporations Act (British Columbia) (the “Arrangement”) all holders of outstanding non-redeemable convertible preferred shares of D-Wave Systems received equity interests in D-Wave in exchange for their equity interests in D-Wave Systems. The aggregate consideration paid to former shareholders of D-Wave Systems in connection with the Merger was approximately 99,736,752 Common Shares and Exchangeable Shares (as defined below) (excluding options of D-Wave Systems and warrants of D-Wave Systems).

“Exchangeable Shares” refers to shares in the capital of D-Wave Quantum Technologies Inc., or ExchangeCo, an indirect Canadian subsidiary of D-Wave. The Exchangeable Shares are exchangeable from time to time, at the holder’s election, for Common Shares on a one-for-one basis.

In connection with the Merger and concurrently with the execution of the Transaction Agreement, on February 7, 2022, DPCM and the Company entered into separate subscription agreements with a number of investors (each a “PIPE Investor”), pursuant to which the PIPE Investors agreed to purchase, and the Company agreed to sell to the PIPE Investors, a number of Common Shares (the “PIPE Shares”) equal to the aggregate purchase price for all Common Shares subscribed for by each PIPE Investor, divided by \$10.00 and multiplied by the Exchange Ratio for an aggregate purchase price of \$40.0 million (the “PIPE Investment”), such that the PIPE Investors purchased 5,816,528 PIPE Shares in the aggregate. The PIPE Investment closed simultaneously with the consummation of the Merger.

On August 2, 2022, the DPCM shareholders voted to approve the Merger. Management determined that once this vote had occurred, it was probable that D-Wave Quantum Inc. would be required to pay Lincoln Park the Commitment Fee associated with the Purchase Agreement. As such, on August 2, 2022, D-Wave Quantum Inc. incurred a \$2.6 million liability payable to Lincoln Park, which was the amount of cash contractually required to settle the Commitment Fee. Other than the Commitment Fee liability, D-Wave Quantum, Inc. had no other assets, liabilities, or operations prior to the closing Date of the Merger on August 5, 2022.

The Merger was accounted for as a reverse recapitalization in accordance with U.S. GAAP. Under this method of accounting, DPCM was treated as the "acquired" company for financial reporting purposes. See Note 2 - Basis of Presentation and Summary of Significant Accounting Policies for further details. Accordingly, for accounting purposes, the Merger was treated as the equivalent of the Company issuing shares for the net assets of DPCM, accompanied by a recapitalization. The net assets of DPCM were stated at historical cost, with no goodwill or other intangible assets recorded.

In accounting for the Merger and after redemptions, net proceeds received by the Company totaled \$18.7 million. The following table presents the net proceeds from the Merger and PIPE Investment for the year ended December 31, 2022 (in thousands):

	Recapitalization
Cash - DPCM trust and cash, net of redemptions	\$ 9,130
Cash - PIPE Investment	40,000
Less: Non-cash net liabilities assumed from DPCM and D-Wave Quantum Inc.	(16,378)
Less: Transaction costs	(14,017)
Net Merger and PIPE Investment	<u>18,735</u>
Add back: Non-cash net liabilities assumed from DPCM and D-Wave Quantum Inc.	16,378
Add back: Accrued transaction costs	2,459
Net cash contribution from Merger and PIPE Investment	<u><u>\$ 37,572</u></u>

The following table presents the number of shares of common stock issued immediately following the consummation of the Merger, PIPE Investment, and closing of the Purchase Agreement:

	Number of Shares
Exchange of DPCM Class A common stock for D-Wave Quantum Inc. common stock upon Merger (1)	1,311,937
Exchange of DPCM Class B common stock for D-Wave Quantum Inc. common stock upon Merger (2)	3,015,575
D-Wave Quantum Inc. common stock issued in PIPE Investment upon Merger	<u>5,816,528</u>
Merger and PIPE shares	10,144,040
Exchange of D-Wave Systems Inc. common stock for D-Wave Quantum Inc. common stock (including Exchangeable Shares) upon Merger (3)	99,736,752
D-Wave Quantum Inc. common stock issued to Lincoln Park for the Purchase Agreement closing commitment upon Merger	<u>127,180</u>
Total D-Wave Quantum Inc. common stock (including Exchangeable Shares) outstanding immediately after Merger, PIPE Investment, and closing of the Purchase Agreement	<u><u>110,007,972</u></u>

(1) Prior to the Merger, there were 30,000,000 shares of DPCM Class A common stock subject to possible redemption outstanding. Also prior to the Merger, 29,097,787 shares of DPCM Class A common stock subject to possible redemption were redeemed, resulting in 902,213 shares of DPCM Class A common stock outstanding immediately prior to the Merger. The number of Common Shares that former stockholders of DPCM Class A common stock received upon exchanging their shares in connection with the Merger was calculated by multiplying the 902,213 shares of DPCM Class A common stock outstanding immediately prior to the Merger by the Exchange Ratio. All fractional shares were rounded down.

(2) Prior to the Merger, there were 7,500,000 shares of DPCM Class B common stock outstanding. Also prior to the Merger, 4,484,425 shares of DPCM Class B common stock were forfeited, resulting in 3,015,575 shares of DPCM Class B common stock outstanding immediately prior to the Merger. In connection with the Merger, the former stockholders of DPCM Class B common stock exchanged their shares for Common Shares on a one-for-one basis.

(3) In conjunction with the Merger, all of D-Wave Systems' non-redeemable convertible preferred stock was converted into D-Wave Systems' common stock. As a result, there were 112,106,972 shares of D-Wave Systems' common stock outstanding immediately prior to the Merger. In conjunction with the Merger, the number of Common Shares that former stockholders of D-Wave Systems' common stock received upon exchanging their shares in conjunction with the Merger was calculated by multiplying the 112,106,972 shares of D-Wave Systems' common stock outstanding by the Conversion Ratio, resulting in 99,736,752 shares of D-Wave Quantum Inc. common stock outstanding (including 48,409,601 Exchangeable Shares). During the year ended December 31, 2022, 1,889,029 Exchangeable Shares were exchanged for Common Shares. All fractional shares were rounded down.

4. REVENUE FROM CONTRACTS WITH CUSTOMERS

Disaggregation of revenue

Nature of Products and Services

The following table depicts the disaggregation of revenue by type of products or services and timing of transfer of products or services (in thousands):

	Years ended December 31,	
	2023	2022
Type of products or services		
QCaaS	\$ 4,895	\$ 5,616
Professional services	3,816	1,478
Other revenue*	47	79
Total revenue	<u>\$ 8,758</u>	<u>\$ 7,173</u>
Timing of revenue recognition		
Revenue recognized over time	\$ 8,569	\$ 6,960
Revenue recognized at a point in time	189	213
Total revenue	<u>\$ 8,758</u>	<u>\$ 7,173</u>

*Other revenue includes support and maintenance and printed circuit board sales.

Geographic Information

The following table presents a summary of revenue by geography for the years ended December 31, 2023 and 2022, based on customer location:

	Years ended December 31,	
	2023	2022
United States	\$ 3,325	\$ 3,342
Germany	1,268	1,150
Japan	909	1,241
Other	3,256	1,440
Total revenue	<u>\$ 8,758</u>	<u>\$ 7,173</u>

"Other" includes the rest of Europe, the Middle East, Africa, Asia, Canada and Australia where the revenue from a single country is not greater than 10% of total consolidated revenue. The Company has not had any sales in China, Russia or Ukraine.

Significant customers

The Company had significant customers during the years ended December 31, 2023 and 2022. A significant customer is defined as one that comprises up to ten percent or more of total revenues in a particular year or ten percent of outstanding accounts receivable balance as of the year end.

The tables below present the significant customers on a percentage of total revenue basis for the years ended December 31, 2023 and 2022.

	Years ended December 31,	
	2023	2022
Customer A	12 %	14 %
Customer B	11 %	12 %
Customer C	11 %	11 %

As of each of December 31, 2023 and 2022, there were three and two significant customers, respectively, that comprised ten percent or more of outstanding accounts receivable balances.

All revenue derived from major customers above are included in the United States, Germany and other European countries during the year ended December 31, 2023 and the United States and Germany during the year ended December 31, 2022.

Contract balances

The following table provides information about account receivable, contract assets and liabilities as of December 31, 2023 and December 31, 2022 (in thousands):

	As of December 31,	
	2023	2022
Trade accounts receivable and contract assets, net:		
Trade account receivable, excluding unbilled receivables	\$ 644	\$ 757
Contract asset for unbilled receivables ¹	\$ 1,008	\$ 58
Contract liabilities:		
Deferred revenue, current	2,669	1,781
Deferred revenue, non-current	79	9
Customer deposit ²	45	45
Total contract liabilities	<u>\$ 2,793</u>	<u>\$ 1,835</u>

¹As of December 31, 2022, unbilled receivables was classified as prepaid expenses and other current assets on the consolidated balance sheets.

²Customer deposit is included in accrued expenses and other current liabilities on the consolidated balance sheets.

The allowance for doubtful accounts was immaterial as of December 31, 2023 and December 31, 2022.

The following table presents the revenue recognized in the consolidated statements of operations that was previously included within contract liabilities:

	Years ended December 31,	
	2023	2022
Revenue	\$ 1,790	\$ 2,719

Changes in deferred revenue from contracts with customers were as follows (in thousands):

	Years ended December 31,	
	2023	2022
Balance at beginning of period	\$ 1,790	\$ 2,719
Deferral of revenue	7,089	5,325
Recognition of deferred revenue	(6,131)	(6,254)
Balance at end of period	<u>\$ 2,748</u>	<u>\$ 1,790</u>

Remaining performance obligations

A significant number of the Company's product and service sales are short-term in nature with a contract term of one year or less. For those contracts, the Company has utilized the practical expedient in ASC 606-10-50-14 exempting the Company from disclosure of the transaction price allocated to remaining performance obligations if the performance obligation is part of a contract that has an original expected duration of one year or less.

As of December 31, 2023, the aggregate amount of remaining performance obligations that were unsatisfied or partially unsatisfied related to customer contracts was \$5.0 million, of which approximately 73% is expected to be recognized to revenue in the next 12 months and substantially all of the remainder will be recognized within 3 years. Revenues allocated to remaining performance obligations represents the transaction price of noncancellable orders for which service has not been performed, which include deferred revenue and the amounts that will be invoiced and recognized as revenues in future periods from open contracts and excludes unexercised renewals.

5. BALANCE SHEET DETAILS

Inventories

Inventories consisted of the following (in thousands):

	As of December 31,	
	2023	2022
Raw materials	\$ 2,052	\$ 2,170
Work-in-process	26	26
Total inventories	\$ 2,078	\$ 2,196

Accrued expenses and other current liabilities

Accrued expenses and other current liabilities consisted of the following (in thousands):

	As of December 31,	
	2023	2022
Accrued expenses:		
Accrued transaction costs	\$ —	\$ 2,459
Accrued professional services	1,092	1,858
Accrued compensation and related benefits	2,581	1,641
Other accruals	961	233
Other current liabilities:		
Other payroll expenses	664	451
Customer deposit	45	45
Total accrued expenses and other current liabilities	\$ 5,343	\$ 6,687

Prepaid expenses and other current assets

Prepaid expenses and other current assets consisted of the following (in thousands):

	As of December 31,	
	2023	2022
Prepaid expenses:		
Prepaid services	\$ 386	\$ 391
Prepaid software	543	559
Prepaid rent	150	96
Prepaid commissions	64	268
Prepaid insurance	454	697
Other prepaid	272	89
Other current assets:		
Directors and Officers insurance	36	1,449
Unbilled receivables	—	58
Security deposits	18	36
Tax receivable	86	—
Total prepaid expenses and other current assets	\$ 2,009	\$ 3,643

Other non-current assets

Other non-current assets consisted of the following (in thousands):

	As of December 31,	
	2023	2022
Investment in securities	\$ 1,168	\$ 1,168
Long-term deposits	189	183
Total other non-current assets	\$ 1,357	\$ 1,351

6. PROPERTY AND EQUIPMENT, NET

Property and equipment, net consisted of the following (in thousands):

	As of December 31,	
	2023	2022
Quantum computer systems	\$ 13,712	\$ 13,714
Lab equipment	6,839	6,666
Computer equipment	3,703	3,545
Leasehold improvements	1,075	1,075
Furniture and fixtures	381	319
Construction-in-progress	894	86
Total property and equipment	26,604	25,405
Less: Accumulated depreciation	(24,053)	(23,111)
Total property and equipment, net	\$ 2,551	\$ 2,294

Depreciation expense for the years ended December 31, 2023 and 2022 was \$0.9 million and \$1.3 million, respectively.

7. INTANGIBLE ASSETS, NET

Intangible assets, net consisted of the following (in thousands):

	As of December 31,	
	2023	2022
Capitalized software	\$ 1,199	\$ 1,152
Other intangible assets	46	45
Total intangible assets	1,245	1,197
Less: Accumulated amortization	(1,066)	(953)
Total intangible assets, net	\$ 179	\$ 244

Amortization expense for the years ended December 31, 2023 and 2022 was \$0.1 and \$0.1 million, respectively.

8. LOANS PAYABLE, NET

As of December 31, 2023 and 2022 loans payable, net, consisted of the SIF Loan (as defined below), the Venture Loan (as defined below), the TPC loan (as defined below), the financing of the Company's D&O insurance premiums and the Term Loan. The following tables show the component of loans payable (in thousands):

	Effective Interest Rate	As of December 31,	
		2023	2022
Loans payable, net, current:			
TPC Loan, due 2024	Interest free	\$ 399	\$ 399
Financing of directors and officers insurance, due 2023	4.24%	—	1,449
Other loans payable, current	Interest free	—	15
Total loans payable, net, current		\$ 399	\$ 1,863
Loans payable, net, non-current:			
SIF Loan ¹		\$ 32,072	\$ 30,434
Term Loan, due 2027	11.00%	31,400	—
TPC Loan, due 2025	Interest free	378	734
Total loans payable, net, non-current		\$ 63,850	\$ 31,168

¹Refer below for additional information on the SIF Loan repayment period and effective interest rate.

The following table shows the component of the Company's current indebtedness carried at fair value and amortized cost:

	As of December 31,	
	2023	2022
SIF Loan	\$ 32,072	\$ 30,434
TPC Loan, due 2025	378	734
Total loans payable, net, non-current, at amortized cost	32,450	31,168
Fair value option - Term Loan	31,400	—
Total loans payable, net, non-current	\$ 63,850	\$ 31,168

TPC loan

In the period spanning 2010 through 2021, the Company received funding totaling C\$12.5 million from Technology Partnerships Canada ("the TPC Loan"). On November 23, 2020, an amendment forgave C\$5.0 million of unpaid accrued debt principal and interest from prior years. Additionally, the amendment waived the interest charge on the remaining C\$2.5 million of principal and revised the repayment schedule to C\$500,000 due annually on April 30, from 2021 to 2025.

The estimated fair value of the TPC Loan (Level 2) at December 31, 2023 was \$0.7 million. The fair value of the TPC Loan was valued using a discounted cash flow model, with key inputs relating to terms, discount rate and expectations for defaults and prepayments.

Promissory notes

Refer to Note 13 - Promissory note - related party for additional information regarding the promissory notes.

SIF Loan

On November 20, 2020, the Company entered into an agreement with the Canada Strategic Innovation Fund ("SIF"), wherein SIF committed to providing a conditionally repayable loan to the Company in the amount of up to C\$40.0 million ("the SIF Loan"). As of December 31, 2023, the Company had received the full C\$40.0 million in eight tranches between November 2020 and December 2023. Funds from the SIF Loan are to be used for projects involving the adaptation of research findings for commercial applications that have the potential for market disruption; development of current product and services through the implementation of new or incremental technology that will enhance the Company's competitive capability; and development of process improvements which reduce the environmental footprint of current production through the use of new or improved technologies.

Principal and interest amounts to be repaid under the SIF Loan are determined using a revenue-based formula, and are capped at 150% of the principal amount (the "Repayment Cap"). Repayments are due in up to 15 annual installments, commencing on April 30 of the second fiscal year following the fiscal year in which the Company first reports annual revenue of at least \$70.0 million (the "Benchmark Year"). If the Company fails to reach \$70.0 million in annual revenue after 14 years from origination, or if the total of the 15 revenue-based annual installments is less than the principal amount, any remaining repayment obligation will be forgiven.

Repayments of the SIF Loan can also be triggered upon default of the agreement, termination of the agreement, or upon a change of control that has not been approved by the Canadian government. The Canadian government conditionally approved the transaction with DPCM on May 9, 2022, with all conditions met on the closing date of the Merger. As of December 31, 2023, the Company is not aware of events that would trigger default or termination of the agreement.

The gross proceeds of the SIF Loan were recorded as a liability related to the sale of future revenues (see Note 2 - Basis of Presentation and Summary of Significant Accounting Policies). As of December 31, 2023 and 2022, the Company calculated a weighted average effective interest rate for all tranches of 2.46% and 2.50%, respectively based on the most recent revenue projections at each reporting date. For the year ended December 31, 2023 and 2022, the Company recognized gains related to catch-up method adjustments to the accrued interest portion of the loans payable, net balance of \$2.9 million and \$0.6 million, respectively, which are included in interest expense on the consolidated statements of operations and comprehensive loss.

The estimated fair value of the SIF Loan (Level 3) at December 31, 2023 was \$5.5 million. The fair value of SIF Loan was valued using a discounted cash flow model, with significant assumptions relating to the amount and timing of future revenue for the Company and the appropriate discount rate.

Venture Loan

On March 3, 2022, the Company entered into a Venture Loan and Security Agreement (the "Venture Loan") with PSPIB Unitas Investments II Inc. ("PSPIB"), a related party to the Company's largest shareholder. Under the Venture Loan, the Company had the ability to borrow up to an aggregate principal amount of \$25.0 million in three tranches, subject to certain terms and conditions. The loan was subject to a per annum interest rate as published in the Wall Street Journal or any successor publication as the "prime rate" plus 7.25% provided that the Wall Street Journal prime rate is not less than 3.25% and if found to be less than 3.25%, such rate would be deemed to be 3.25%. The maturity date of the loan was defined as the earliest of December 31, 2022, or the closing of the Merger, or the date of acceleration of such loan following an event of default. During the year ended December 31, 2022, the Company received \$20.0 million in loan proceeds that were recorded in current loans payable in its consolidated balance sheet, \$15.0 million of which was received on March 3, 2022 and \$5.0 million of which was received on June 30, 2022. All obligations under the Venture Loan were repaid upon the completion of the Merger on August 5, 2022.

Term Loan

On April 13, 2023, the Company entered into the Term Loan with PSPIB, a related party to the Company's largest shareholder. Under the Term Loan, term loans in aggregate principal amount of \$50.0 million are to be made available to the Company in three tranches, subject to certain terms and conditions.

The Term Loan matures on March 31, 2027, is secured by a first-priority security interest in substantially all of the Company's assets and contains certain operational and financial covenants, including a financial covenant that measures the Company's revenue against certain minimum percentages of budgeted revenue per quarter. The Term Loan is subject to a 2% drawdown fee and requires that any proceeds from the issuance of Common Shares under the Purchase Agreement be applied towards the repayment of advances under the Term Loan. Such repayments are subject to a premium payment equal to 10% of the amount then prepaid to the Lender, in addition to the regular prepayment premium applicable on that date, except as modified by the amendment to the Term Loan as discussed below. The Term Loan is subject to a prepayment premium due to the Lender equal to 3% of the amount prepaid/repaid within the first year of the Closing Date, 2% in the second year, 1% in the third year and no prepayment premium thereafter. At the Company's discretion, the Term Loan bears interest on a monthly basis at either (i) 10.0% payable in cash, or (ii) 11.0% payable in kind ('PIK'), with the latter added to the principal value of the Term Loan. For the year ended December 31, 2023, the Company recognized \$2.0 million in PIK interest expense related to the Term Loan. The PIK interest expense is included in interest expense on the Consolidated Statements of Operations and Comprehensive Loss.

Prior to PSPIB's advance of the first tranche, the Company satisfied several closing conditions including the provision of a cash flow forecast and the board of directors' retention of an advisor. The first and second tranche of the Term Loan, each in an aggregate principal amount of \$15.0 million, were advanced to D-Wave on April 14, 2023 and July 13, 2023, with the third tranche of \$20.0 million to be made automatically available to the Company subject to the satisfaction of certain conditions. For year ended December 31, 2023, the Company has recorded debt issuance cost of \$2.1 million as other expense in its consolidated statements of operations and comprehensive loss. PSPIB has agreed to waive certain covenants under the Term Loan that the Company did not meet, including the minimum revenue financial covenant for the fiscal quarters ended June 30, 2023 and September 30, 2023. As of December 31, 2023, the Company was in compliance with the covenants under the Term Loan.

The availability of the third tranche is subject to the Company closing a \$25.0 million non-dilutive financing on terms reasonably acceptable to the Lender, the intellectual property valuation report submitted as a condition precedent to the second tranche remaining satisfactory to the Lender and providing a board-approved operating budget for 2023 through 2027 by August 31, 2023 that is satisfactory to the Lender. The deadline to provide the operating budget was extended to December 31, 2023 from August 31, 2023 by the fourth amendment to the Term Loan dated October 6, 2023, and the budget was provided prior to the extended deadline. There can be no assurance that the Company will be able to meet the conditions necessary to draw on the third tranche.

The Term Loan was amended such that the Company may issue up to \$50.0 million under the Lincoln Park Purchase Agreement without the requirement to pay down the Term Loan to the extent that the proceeds under the Purchase Agreement were received prior to December 31, 2023. As amended, the Term Loan requires that any proceeds from the issuance of Common Shares under the Purchase Agreement in excess of \$50.0 million shall be applied towards the repayment of advances under the Term Loan in addition to a premium payment equal to 10% of the amount then prepaid to the Lender.

Any unrealized gains or losses on the Term Loan is included in change in fair value of term loan on the consolidated statements of operations and comprehensive loss.

We classified the Term Loan as a Level 3 fair value measurement and used the binomial lattice model and the Monte Carlo simulation model to calculate the fair value. Key inputs for the simulations are summarized below.

	As of 12/31/2023
Weighted-average risk-free rate	5.40% Range: 5.25% to 5.60%
Default Trigger Event probability	5.00% on July 1 2024
ELOC financing trigger event probability	25.00% from December 31, 2023 through July 1, 2024
Weighted-average market yield rate (Default Trigger Event)	13.54% Range: 12.68% to 13.54%
Weighted-average market yield rate (Call Option)	12.51% Range: 11.10% to 13.48%
Weighted-average market yield volatility	5.00%

The following table summarizes the difference between the fair value and the amortized cost of the Term Loan as of December 31, 2023:

	Amortized Cost	Unrealized Gains	Fair Value
Term Loan, due 2027	\$ 32,040	\$ 640	\$ 31,400

The following table summarizes the changes in the Term Loan:

	Year ended December 31, 2023
Beginning balance	\$ —
Proceeds	30,000
PIK interest expenses	2,040
Change in fair value	(640)
Ending balance	<u>\$ 31,400</u>

Financing of directors and officers insurance

In conjunction with the Business Combination, the Company entered into a Directors and Officers insurance policy on August 5, 2022 with a total premium, taxes and fees totaling \$2.8 million. The insurance may cover certain liabilities arising from the Company's obligation to indemnify its directors and certain of its officers and employees, and former officers, directors, and employees of acquired companies, in certain circumstances. Under the terms of the insurance financing, payments of \$0.3 million, which include interest at the rate of 4.24% per annum, are due each month for nine months commencing on September 5, 2022. The total outstanding directors and officers insurance due as of December 31, 2023 and 2022 was zero and \$1.4 million, respectively.

9. LEASES

The Company leases real estate, including offices and manufacturing facilities and has entered into various other agreements with respect to assets used in conducting its business. The Company's leases have remaining lease terms ranging from 6 months to 10 years. Some of the lease agreements contain rent holidays and rent escalation clauses that were included in the calculation of the right of use of assets and lease liabilities.

The Company's building leases are subject to annual operating cost charges that may change from time to time during the lease term. The Company's lease liabilities are not remeasured as a result of changes to the operating costs; rather, these changes are treated as variable lease payments and recognized in the period in which the obligation for the payments was incurred. The annual operating costs are a non-lease component of the contracts; however, the Company has elected to adopt the practical expedient whereby such costs are not separated from the lease component.

In determining the initial values of the lease obligations, the Company made a number of assumptions, including using a weighted average discount rate of 9% to 20% and using the foreign exchange rate at the date of calculation in order to translate any foreign currency balances.

The following table presents the components of lease cost (in thousands):

	Years ended December 31,	
	2023	2022
Operating lease cost	\$ 1,675	\$ 1,766
Variable lease cost	\$ 416	\$ 263
Sublease income	\$ 125	\$ 260

The following table presents the weighted-average lease terms and discount rates for operating leases:

	As of December 31,	
	2023	2022
Lease term and discount rate:		
Weighted average remaining lease term in years:		
Operating leases	9.7	2.8
Weighted average discount rate⁽¹⁾:		
Operating leases	9.5 %	17.0 %

⁽¹⁾ For the lease contracts denominated in foreign currencies, the weighted average discount rate was calculated by converting the foreign currency amounts to equivalent amounts in USD.

Future minimum operating lease payment under non-cancelable leases as of December 31, 2023, were as follows (in thousands):

Year ended December 31,	Operating Leases	
2024	\$	1,374
2025		1,187
2026		1,219
2027		1,251
2028		1,281
Thereafter		6,778
Total future minimum lease payments		13,090
Less: Interest		(4,688)
Total lease liabilities	\$	8,402

10. INCOME TAXES

Income tax expense

The following table presents domestic and foreign components of loss before income taxes for the years ended December 31, 2023 and 2022 (in thousands):

	Years ended December 31,	
	2023	2022
Domestic	\$ (42,502)	\$ (11,214)
Foreign	(40,213)	(42,488)
Total net loss before income taxes	\$ (82,715)	\$ (53,702)

Significant components of the Company's deferred income tax assets and liabilities as of December 31, 2023 and 2022 are as follows:

	Years ended December 31,	
	2023	2022
Deferred tax assets:		
Net operating loss carryforwards	\$ 54,625	\$ 55,430
Research and development credit carryforward	15,468	13,304
Scientific research and experimental development deductions	33,321	30,064
Depreciation and amortization	6,349	5,943
Start-up costs	873	978
Stock-based compensation	498	547
Loan payable	—	81
Other accruals and reserves	654	888
Total deferred tax assets	111,788	107,235
Valuation Allowance	(110,981)	(106,919)
Total deferred tax assets, net	<u>\$ 807</u>	<u>\$ 316</u>
Deferred tax liabilities:		
Convertible notes	—	(1)
Marketable securities	(315)	(315)
Loan payable	(492)	—
Total deferred tax liabilities	<u>(807)</u>	<u>(316)</u>
Net deferred tax assets (liabilities)	<u>\$ —</u>	<u>\$ —</u>

The effective tax rate differs from the statutory rate, primarily due to the Company's history of incurring losses, which have not been utilized, the foreign rate differential related to subsidiary earnings, and other permanent differences.

A summary reconciliation of the effective tax rate calculated at the US federal rate for 2023 and 2022 is as follows:

	Years ended December 31,	
	2023	2022
US federal tax rate	21 %	21 %
State tax	— %	1 %
Foreign losses taxed at different rates	3 %	5 %
Return to provision adjustments	(16)%	(1)%
Stock-based compensation	(6)%	(3)%
Research and development credits	5 %	5 %
Permanent differences	(2)%	(23)%
Other	— %	— %
Change in valuation allowance	<u>(5)%</u>	<u>(5)%</u>
Effective tax rate	<u>— %</u>	<u>— %</u>

Realization of deferred tax assets is dependent upon future earnings, if any, the timing and the amount of which are uncertain.

As of December 31, 2023, the Company maintained a valuation allowance with respect to its subsidiaries' net operating losses that it believes is more likely than not that the deferred tax asset will not be realized. The Company will continue to reassess the valuation allowance annually and if future evidence allows for a partial or full release of the valuation allowance, a tax benefit will be recorded accordingly.

As of December 31, 2023, the Company has Canadian tax loss carryforwards of approximately \$118.9 million expiring between 2033 and 2043 as well as Scientific Research and Experimental Development expenditures of approximately \$123.5 million that can be carried forward indefinitely, which are available to be applied against future taxable income. In addition, the Company has investment tax credits of approximately \$17.3 million expiring between 2028 and 2043 that are available to be applied against future Canadian federal income taxes payable. The Company has provincial investment tax credits of approximately \$2.7 million expiring in 2032 and 2033 that are available to be applied against future Canadian provincial income taxes payable.

The Company also has US tax loss carryforwards of approximately \$67.8 million which may be applied against future taxable income, of which \$15.6 million will expire between 2032 and 2037, while \$52.2 million can be carried forward indefinitely. Future utilization of US tax loss carryforwards is subject to certain limitations under the Internal Revenue Code ("IRC"), including limitations under IRC section 382. The Company's US tax loss carryforwards may be limited by IRC section 382. However, those limitations do not have a significant impact to the financial statements since there is no utilization of the tax loss carryforwards and a full valuation allowance exists against the net operating losses.

The Company files income tax returns in the US, Canada, and various foreign and state jurisdictions. The 2014 to 2023 tax years remain subject to examination by the US federal and state tax authorities. The 2019 to 2023 tax years remain subject to examination by Canadian tax authorities.

The Company has unrecognized tax benefits of \$0.7 million as of December 31, 2023. No amount of the unrecognized tax benefits would affect the effective tax rate because any tax benefits would result in adjustments to a related deferred tax asset that are offset by a valuation allowance. The Company has not accrued for any interest or penalties as of December 31, 2023.

The total gross unrecognized tax benefits remained unchanged throughout the year ended December 31, 2023.

11. WARRANT LIABILITIES

Public and Private Warrants

In conjunction with the Merger, the Company assumed 10,000,000 DPCM public warrants and 8,000,000 DPCM private warrants. During the year ended December 31, 2023, no DPCM public or private warrants were exercised.

As of December 31, 2023, the Company has 17,916,609 Warrants outstanding. As part of the Merger, as described in Note 3 - Merger, each DPCM Public Warrant and Private Warrant that was issued and outstanding immediately prior to the Merger was automatically and irrevocably converted into one D-Wave Quantum warrant. The Warrants are subject to the terms and conditions of the warrant agreement entered into between DPCM, Continental Stock Transfer & Trust Company and the Company (the "Warrant Agreement Amendment" as specified in the Transaction Agreement).

Each such Warrant will be exercisable at an exercise price of \$11.50 for 1.4541326 Common Shares, or an approximate exercise price per Common Share of \$7.91, subject to adjustments. The Warrants may be exercised for a whole number of shares of the Company. No fractional shares will be issued upon exercise of the Warrants. The Warrants will expire on August 5, 2027, or earlier upon redemption or liquidation.

The Private Warrants are identical to the Public Warrants except that the Private Warrants are exercisable on a cashless basis and are non-redeemable so long as they are held by the initial purchasers or their permitted transferees. If the Private Warrants are held by someone other than the initial purchasers or their permitted transferees, the Private Warrants will be redeemable by the Company and exercisable by such holders on the same basis as the Public Warrants.

The Company may redeem the Public Warrants:

- in whole and not in part;
- at \$0.10 per warrant upon a minimum of 30 days' prior written notice of redemption; provided that holders will be able to exercise their warrants on a cashless basis prior to redemption and receive that number of shares based on the redemption date and the fair market value of the Common Share;
- if, and only if, the last reported sales price of the shares of the Common Shares for any twenty (20) trading days within the thirty (30) trading-day period ending on the third trading day prior to the date on which a notice of redemption is given equals or exceeds \$10.00 per share (as adjusted for stock splits, stock dividends, reorganizations, recapitalization and the like) (the "Reference Value");
- if the Reference Value is less than \$18.00 per share (as adjusted for stock splits, stock dividends, reorganizations, recapitalization and the like), the Private Warrants must also be concurrently called for redemption on the same terms as the outstanding Public Warrants, as described above; and

- if, and only if, there is an effective registration statement covering the issuance of the Common Shares issuable upon exercise of the warrants and a current prospectus relating thereto available throughout the 30-day period after written notice of redemption is given, or an exemption from registration is available.

If the Company calls the Public Warrants for redemption, management will have the option to require all holders that wish to exercise the Public Warrants to do so on a “cashless basis,” as described in the warrant agreement. The exercise price and number of the Common Shares issuable upon exercise of the warrants may be adjusted in certain circumstances including in the event of a stock dividend, or recapitalization, reorganization, merger or consolidation. However, the warrants will not be adjusted for issuance of the Common Shares at a price below its exercise price. Additionally, in no event will the Company be required to net cash settle the warrants.

D-Wave Systems Warrant Transaction Agreements

In November 2020, contemporaneously with a revenue arrangement, D-Wave Systems entered into a contract pursuant to which D-Wave Systems agreed to cancel a previously issued warrant with a customer and replace it with a warrant to acquire up to 3,247,637 shares of its Class A Preferred Shares (the “Warrant Preferred Shares”), subject to certain vesting requirements. The warrant agreement was amended on August 5, 2022, contemporaneously with the closing of the Merger, to convert the Warrant Preferred Shares to a warrant to acquire up to 2,889,282 Common Shares of the Company in accordance with the Conversion Ratio (as defined below). The warrants vest based on various contractual milestones. As of the termination date of the agreement, approximately 40% of the warrants had vested, resulting in warrants exercisable into 1,155,713 Common Shares remaining after the termination date. The vested warrants will remain exercisable for up to 1,155,713 Common Shares at an exercise price of \$2.16 per Common Share until November 29, 2026. During the year ended December 31, 2023, no Warrant Preferred Shares were vested or probable of vesting.

The Company estimated the fair value of D-Wave Systems Warrant Shares on the date of grant using the Black-Scholes option-pricing model. The Black-Scholes option-pricing model requires estimates of highly subjective assumptions, which affect the fair value of each warrant. The estimated fair value of the Common Shares was based on the Common Share offering price due to its proximity to the grant date of the Warrant Shares. The estimated term is based on the contractual life of the Warrant Shares. The remaining assumptions were developed consistent with the methodologies described further in Note 12 - Stock-based compensation. The fair value of the Warrant Preferred Shares at the date of issuance was determined to be \$1.1 million.

12. STOCK-BASED COMPENSATION

2020 Equity Incentive Plan

In April 2020, the Board of Directors of D-Wave Systems approved the 2020 Equity Incentive Plan (the “2020 Plan”) which provides for the grant of qualified ISO and NSO, restricted stock, RSU or other awards to the Company’s employees, officers, directors, advisors, and outside consultants. After the closing of the Merger effective August 5, 2022, no additional awards were issued under the 2020 Plan. Awards outstanding under the 2020 Plan will continue to be governed by such plan; however, the Company will not grant any further awards under the 2020 Plan. Stock options granted under the 2020 Plan will be converted applying the Conversion Ratio to the underlying common stock at the exercise date.

2022 Equity Incentive Plan

In connection with the Merger (Note 3), the shareholders approved the D-Wave Quantum Inc. 2022 Equity Incentive Plan (the “2022 Plan”) on August 5, 2022, which became effective immediately upon the closing of the Merger. The aggregate number of Common Shares reserved for future issuance under the 2022 Plan is 22,767,361 shares as of December 31, 2023. The number of shares reserved for issuance under the 2022 Plan will automatically increase on January 1st of each year for a period of ten years commencing on January 1, 2023 and ending on (and including) January 1, 2032, in an amount equal to 5% of the fully-diluted Common Shares outstanding on December 31 of the preceding year; provided, however, that the Board of Directors of the Company may act prior to January 1st of a given year to provide that the increase for such year will be a lesser number of Common Shares. The Board of Directors provided that there would be no automatic increase to the share reserve on January 1, 2024. While the 2022 Plan allows for the issuance of awards with a service condition, a performance condition, a market condition, or some combination of the three, to date, the Company has only issued awards subject to a service condition. Awards issued under the 2022 Plan have vesting periods ranging from under one year to four years from the original grant date, and all awards issued to date under the 2022 Plan will expire ten years from the original grant date.

Share-based compensation awards are settled by issuing new shares.

Stock option valuation

The Company estimates the fair value of stock options on the date of grant using the Black-Scholes option-pricing model and has used this method during the years ended December 31, 2023 and 2022. The Black-Scholes option-pricing model requires estimates of highly subjective assumptions, which affect the fair value of each stock option.

Risk-Free Interest Rate. The Company estimates its risk-free interest rate by using the yield on actively traded non-inflation-indexed U.S. treasury securities with contract maturities equal to the expected term.

Expected Term. The expected term of the Company's options represents the period that the stock-based awards are expected to be outstanding.

Expected Volatility. Given the limited quoted price history for the Common Shares, the expected volatility is based on the average historical stock price volatility of comparable publicly-traded companies in its industry peer group, financial, and market capitalization data.

Expected Dividend Yield. The Company has not declared or paid dividends to date and does not anticipate declaring dividends.

Before the Merger on August 5, 2022, the Company used the SAB Topic 14 Simplified Method to estimate the expected term of employee awards, given limited historical exercise data. For options vesting before the grant date, the remaining vesting term at the grant date is used. Also, pre-Merger, the fair value of Common Shares was estimated using objective and subjective factors, including third-party valuations, preferred stock attributes, lack of marketability, actual financial results, business conditions, projections, likelihood of a liquidity event, and precedent transactions.

No stock options were granted in the year ended December 31, 2023. The assumptions used to estimate the fair value of stock options granted during the years ended December 31, 2022 are as follows:

	Year ended December 31, 2022
Expected dividend yield	—
Expected volatility	36.6 %
Expected term (years)	6.1
Risk-free interest rate	3.0 %

Common stock option activity

The following table summarizes the Company's stock option activity during the periods presented (in thousands except share and per share data):

	Number of options	Weighted average exercise price (\$)	Weighted average remaining contractual term (years)	Aggregate intrinsic value (\$)
Outstanding as of December 31, 2021	16,336,134	0.81	8.55	80,179
Granted	1,500,081	10.07	—	—
Exercised	(1,380,609)	0.81	—	1,981
Forfeited	(1,050,228)	1.43	—	—
Expired	(17,832)	0.81	—	—
Outstanding as of December 31, 2022	15,387,546	1.76	7.12	8,763
Granted	—	—	—	—
Exercised	(2,337,364)	0.91	—	1,723
Forfeited	(1,585,735)	3.88	—	—
Expired	—	—	—	—
Outstanding as of December 31, 2023	11,464,447	1.64	6.80	—
Options exercisable as of December 31, 2023	10,014,807	1.33	6.64	—
Options unvested as of December 31, 2023	1,449,640	3.79	7.87	—

As of December 31, 2023, out of the total 11,464,447 options that have been issued and are currently outstanding, 10,547,844 options were granted under the 2020 Plan. These options will be converted applying the Conversion Ratio into a maximum of 9,383,963 Common Shares upon exercise.

The weighted-average grant date fair value of stock options granted during the year ended December 31, 2022 was \$4.11 per share.

During the year ended December 31, 2023, a total of 1,486,279 options vested. The total fair value of the options vested during the years ended December 31, 2023 was \$3.8 million.

The aggregate intrinsic value of stock options is calculated as the difference between the exercise price of the stock options and the fair value of the Common Shares for those stock options that had exercise prices lower than the fair value of the Common Shares.

During the year ended December 31, 2022, the Company modified the terms of certain options previously granted to employees. There were two separate types of modifications. The first type of modification was to extend the exercise period of employee awards that had already vested ("Type 1 Modification"). For each Type 1 Modification, the Company calculated the fair value of the original awards and modified awards and recognized the incremental fair value on the modification date. The Type 1 Modification impacted five grantees. The second type of modification was to accelerate the vesting terms of an unvested award such that the award vested immediately upon the employee's termination ("Type 2 Modification"). For Type 2 Modification, the Company recognized compensation expense equal to the grant date fair value of the modified award. The Type 2 Modification impacted one grantee. The total impact of the modifications was \$0.4 million and such compensation expense is included within the consolidated statements of operations and comprehensive loss for the year ended December 31, 2022.

Common stock warrants

On April 14, 2022, 617,972 common stock warrants of D-Wave Systems with an exercise price of \$1.75 expired. As of December 31, 2023 and 2022, there were no common stock warrants outstanding.

Restricted stock unit awards

The following table summarizes the RSU activity and related information under the 2022 Plan:

	Number of Outstanding	Weighted average Grant Date Fair Value (\$)	Weighted average remaining contractual term (years)	Aggregate intrinsic value (\$)
Unvested as of December 31, 2021	—	—	—	—
Granted	8,278,317	5.72	—	—
Forfeited	(135,013)	0.12	—	—
Vested	—	—	—	—
Unvested as of December 31, 2022	8,143,304	5.69	9.81	11,757
Granted	4,567,933	0.89	—	—
Forfeited	(1,949,432)	4.16	—	—
Vested	(3,715,992)	5.49	—	—
Unvested as of December 31, 2023	<u>7,045,813</u>	3.13	9.08	6,201

The total fair value of the RSUs vested during the years ended December 31, 2023 was \$20.4 million.

Employee Stock Purchase Plan

In August 2022, the Company established the 2022 Employee Stock Purchase Plan (the "ESPP"), providing eligible employees of the Company and designated subsidiaries an opportunity to purchase the Company's common shares at discounted rates. An eligible employee is defined as someone who: (i) is regularly employed by the Company or its designated subsidiaries for at least 20 hours per week and more than five months in a calendar year, and (ii) is classified as an employee for tax purposes. Regarding the Non-423 Component, any employee of the Company or its affiliates, as determined by a committee appointed by the Board, is eligible.

Management will compute compensation expense by combining three components: (i) a 15% discount offered, (ii) a call option on 0.85 share of stock with an exercise price equal to the fair market value, and (iii) a put option on 0.15 share of stock with an exercise price equal to the fair market value. The requisite service period is the six-month purchase period. Any reductions in withholding amounts (or percentages) will be disregarded for compensation cost recognition. If a participant or the plan is terminated, management will reverse any expense accrued for unvested shares. Should an employee opt to increase withholding during an enrollment period within the plan term, modification accounting will determine the incremental fair value associated with the modified award. As of December 31, 2023, the maximum number of common shares to be issued under the ESPP is 9,345,408. During the year ended December 31, 2023, 467,388 shares of common shares were issued under the ESPP, and compensation cost recognized related to the ESPP was \$0.4 million.

Stock-based compensation expense

The following table summarizes the stock-based compensation expense classified in the consolidated statements of operations and comprehensive loss as follows (in thousands):

	Years ended December 31,	
	2023	2022
Cost of revenue	\$ 1,272	\$ 379
Research and development	8,286	3,141
General and administrative	11,356	2,615
Sales and marketing	1,005	3,029
Total stock-based compensation	<u>\$ 21,919</u>	<u>\$ 9,164</u>

As of December 31, 2023, total unrecognized stock-based compensation cost, net of estimated forfeitures, related to our unvested stock awards was \$22.8 million. This amount is based on an estimated future forfeiture rate of 2.7% per year and will be recognized over a weighted-average period of approximately 1.3 years.

13. PROMISSORY NOTE - RELATED PARTY

Venture Loan

On March 3, 2022, the Company entered into the Venture Loan with PSPIB, a related party to the Company's largest shareholder. Refer to Note 8 - Loans payable, net for further description of the Venture Loan.

Term Loan

On April 13, 2023, the Company entered into the Term Loan, by and between the Company and PSPIB, a related party to the Company's largest shareholder. Refer to Note 8 - Loans payable, net for further description of the Term Loan.

Promissory notes

On February 28, 2022, an affiliate of DPCM entered into an unsecured promissory note of up to \$1.0 million with the Sponsor (the "Affiliate Note"). The purpose of the Affiliate Note was to provide DPCM with additional working capital. All amounts drawn on the Affiliate Note were provided directly to DPCM. The Affiliate Note is not convertible and bears no interest. The principal balance of the Affiliate Note was originally due and payable upon the earlier of the date on which DPCM consummates its initial business combination, or the date that the winding up of DPCM is effective. A total of \$0.2 million was drawn on the Affiliate Note.

In connection with the Merger, the Affiliate Note was assumed by the Company and was amended and restated effective December 31, 2022. The amended and restated note has identical terms as the Affiliate Note except that the Company must pay the principal balance in four equal installments on April 30, 2023, June 30, 2023, August 31, 2023, and October 31, 2023.

On April 13, 2022, DPCM entered into an unsecured promissory note of up to \$1.0 million with the Sponsor (the "DPCM Note"). The purpose of the DPCM Note was to provide DPCM with additional working capital. All amounts drawn on the DPCM Note were provided directly to DPCM. The DPCM Note is not convertible and bears no interest. The principal balance of the DPCM Note was originally due and payable upon the earlier of the date on which DPCM consummates its initial business combination, or the date that the winding up of DPCM is effective. A total of \$0.2 million was drawn on the DPCM Note.

In connection with the Merger, the DPCM Note was assumed by the Company and was amended and restated effective December 31, 2022. The amended and restated note has identical terms as the Affiliate Note except that the Company was to pay the principal balance in equal installments on December 31, 2022, March 31, 2023, and June 30, 2023.

In February 2023, these DPCM Notes were further amended and restated such that the Company was to pay the principal balance in four equal installments on each of April 30, 2023, June 30, 2023, August 31, 2023, and October 31, 2023.

As of December 31, 2023, the DPCM Notes and the Affiliate Notes had been repaid in full.

The execution of the amended and restated Affiliate Note and the amended and restated DPCM Note are related party transactions as these notes are payable to affiliates of the Company.

Short swing profit settlement

For the year ended December 31, 2023, the Company recorded approximately \$0.2 million related to the short swing profit settlement remitted by a shareholder of the Company under Section 16(b) of the Securities Exchange Act of 1934, as amended. The Company recognized the proceeds as an increase to additional paid-in-capital in the consolidated balance sheets as of December 31, 2023, and in the consolidated statements of stockholder's (deficit) equity, as well as in cash provided by financial activities in the consolidated statement of cash flows for the year ended December 31, 2023.

14. COMMITMENTS AND CONTINGENCIES

Lease obligations

Refer to Note 9 - Leases for a description of the Company's lease obligations as of December 31, 2023.

Litigation

From time to time, the Company may become involved in various legal proceedings in the ordinary course of its business and may be subject to third-party infringement claims.

In the normal course of business, the Company may agree to indemnify third parties with whom it enters into contractual relationships, including customers, lessors, and parties to other transactions with the Company, with respect to certain matters. The Company has agreed, under certain conditions, to hold these third parties harmless against specified losses, such as those arising from a breach of representations or covenants, other third-party claims that the Company's products, when used for their intended purposes, infringe the intellectual property rights of such other third parties, or other claims made against certain parties. It is not possible to determine the maximum potential amount of liability under these indemnification obligations due to the Company's limited history of prior indemnification claims and the unique facts and circumstances that are likely to be involved in each particular claim.

As of December 31, 2023 and 2022, the Company was not subject to any material litigation or pending litigation claims.

15. NET LOSS PER SHARE

As a result of the Merger (see Note 3), the Company has retroactively adjusted the weighted average shares outstanding prior to August 5, 2022 to give effect to the Conversion Ratio used to determine the number of Common Shares into which they were converted.

The following table sets forth the computation of the basic and diluted net loss per share attributable to common stockholders for the year ended December 31, 2023 and 2022 (in thousands, except share and per share data):

	Years ended December 31,	
	2023	2022
Numerator:		
Net loss attributable to common stockholders - basic and diluted	\$ (82,715)	\$ (53,702)
Denominator:		
Weighted-average common stock outstanding	137,993,736	119,647,777
Net loss per share attributable to common stockholders - basic and diluted	\$ (0.60)	\$ (0.45)

For the years ended December 31, 2023 and 2022 the Company's potentially dilutive securities were stock options, the Warrant Shares, the Public Warrants and Private Warrants, and the warrants to purchase Common Shares and preferred stock.

Since the Company was in a loss position for all periods presented, basic net loss per share is the same as diluted net loss per share for all periods as the inclusion of all potential common shares outstanding would have been anti-dilutive.

Potentially dilutive securities (upon conversion) that were not included in the diluted per share calculations because they would be anti-dilutive were as follows:

	Years ended December 31,	
	2023	2022
Public Warrants as converted to Common Shares (Note 11)	14,420,065	14,420,065
Private Warrants as converted to Common Shares (Note 11)	11,633,060	11,633,060
D-Wave Systems Warrant Shares as converted to Common Shares (Note 11)	1,155,713	2,889,282
Stock options issued and outstanding	10,300,567	13,689,638
Unvested restricted stock unit awards	7,045,813	—
Total	44,555,218	42,632,045

16. STOCKHOLDERS' EQUITY

Preferred Stock

As of December 31, 2023, D-Wave Quantum Inc. is authorized to issue up to 20,000,000 shares of preferred stock. D-Wave Quantum Inc. has not issued any shares of preferred stock as of December 31, 2023 and 2022. As no shares have been issued, D-Wave Quantum Inc. preferred stock is not reflected on the consolidated balance sheet.

Equity Purchase Agreement

On June 16, 2022, the Company entered into a common stock purchase agreement with Lincoln Park. The Purchase Agreement provides that, subject to the terms and conditions, the Company has the right, but not the obligation, to sell to Lincoln Park up to \$150.0 million in Common Shares over a 36-month period commencing on October 26, 2022. As of December 31, 2023, the Company has cumulatively received \$67.9 million in proceeds through the issuance of 44,026,644 Common Shares to Lincoln Park under the Purchase Agreement. The purchase price per share of the shares sold is based on the market price prevailing immediately preceding the time of sale as computed under the Purchase Agreement. The Purchase Agreement prohibits the Company from directing Lincoln Park to purchase any Common Shares if the closing price of the Common Shares is less than \$1.00. The agreement may be terminated by the Company at any time, at its sole discretion, without any additional cost or penalty.

Common Stock

As of December 31, 2023, the Company had 161,113,744 shares of common stock outstanding, comprised of 46,520,612 Exchangeable Shares and 114,600,246 Common Shares. At any time and at their election, holders of Exchangeable Shares can exchange their shares for Common Shares on a one-for-one basis. In addition, holders of Exchangeable Shares have the same rights with respect to voting, dividends, and liquidation, dissolution, and winding up, as holders of Common Shares. As such, the Exchangeable Shares are identical in substance to Common Shares and, therefore, are treated as shares of common stock of the Company.

The Company's common stock contains the following rights:

Voting Rights

Except as otherwise required by law or as otherwise provided in any certificate of designation for any series of preferred stock, the holders of D-Wave Quantum Common Shares possess all voting power for the election of directors and all other matters requiring stockholder action. Holders of D-Wave Quantum Common Shares are entitled to one vote per share on matters to be voted on by stockholders.

Dividend Rights

Holders of D-Wave Quantum Common Shares will be entitled to receive dividends as and when declared by D-Wave Quantum's board of directors at its discretion out of funds properly applicable to the payment of dividends, subject to the rights, if any, of shareholders holding shares with special rights to dividends. The timing, declaration, amount and payment of future dividends will depend on D-Wave Quantum's financial condition, earnings, capital requirements and debt service obligations, as well as legal requirements, regulatory constraints, industry practice and other factors that D-Wave Quantum's board of directors deems relevant.

Rights Related to Liquidation, Dissolution and Winding Up

In the event of voluntary or involuntary liquidation, dissolution, distribution of assets or winding-up, the holders of D-Wave Quantum Common Shares will be entitled to receive an equal amount per share of all of the Company's assets of whatever kind available for distribution to stockholders, after the rights of the holders of the preferred stock, if any, have been satisfied.

17. GEOGRAPHIC AREAS

The following table sets forth the long-lived assets, consisting of property and plant, net, and operating lease right-of-use assets, by geographic area as follows (in thousands):

	Years ended December 31,	
	2023	2022
Canada	\$ 10,562	\$ 10,953
United States	212	474
Total long-lived assets	<u>\$ 10,774</u>	<u>\$ 11,427</u>

18. EMPLOYEE BENEFIT PLANS

We currently maintain a 401(k) retirement savings plan for our US employees, including our named executive officers, who satisfy certain eligibility requirements. The Internal Revenue Code allows eligible employees to defer a portion of their compensation, within prescribed limits, on a pre-tax basis through contributions to the 401(k) plan. The Company did not make any matching contributions for the years ended years ended December 31, 2023 and 2022.

19. SUBSEQUENT EVENTS

The Company has evaluated all events occurring through March 29, 2024, the date on which the consolidated financial statements were issued, and during which time, nothing has occurred outside the normal course of business operations that would require disclosure except the following:

Zapata AI Collaboration

On February 8, 2024, the Company entered into a collaboration arrangement with Zapata Computing, Inc. ("Zapata") to develop and bring to market commercial applications that combine the power of generative AI and quantum computing technologies. Simultaneously, Zapata purchased a multi-year subscription to the Company's Leap quantum cloud service. As part of the collaboration, the Company invested \$1.0 million in Zapata's Senior Secured Convertible Notes (the "Zapata Notes"). The Zapata Notes bear interest at 15% per annum and mature on December 15, 2026. The Zapata Notes are convertible at the option of the Company into the common stock of Zapata at a conversion price of either i) \$4.50 per share if the Notes are voluntarily converted as part of the closing of a De-SPAC transaction, or ii) \$8.50 per share if converted at any other time prior to maturity. The conversion prices may be adjusted in the event of stock split, recapitalization, or similar corporate action. The Zapata Notes are secured by substantially all of the assets of Zapata.

NYSE Listing Standards Compliance

On March 1, 2024, the NYSE provided D-Wave with a notification letter of recompliance based on a calculation of the Company's average closing share price for the 30 trading days ended February 29, 2024, which reflected an average closing share price above the NYSE's \$1.00 minimum requirement. D-Wave will continue to be traded on the NYSE, subject to its continued compliance with all applicable listing standards.

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**BOARD OF DIRECTORS****Alan E. Baratz**

President and Chief Executive Officer
D-Wave Quantum Inc.

Roger Biscay

Senior Vice President and Treasurer
Cisco Systems

Amy Cappellanti-Wolf

Global Chief People Officer, Board
Member and Advisor

Ziv Ehrenfeld

Managing Director
PSP Investments USA

Emil Michael

Chairman and Chief Executive Officer
M8 Enterprises LLC

Kirstjen Nielsen

President and Founder
Lighthouse Strategies

Philip Adam Smalley III

Managing Director
Public Sector Pension Investment Board

Steven M. West

Founder and Managing Partner
Emerging Company Partners LLC

EXECUTIVE OFFICERS**Alan E. Baratz**

President and Chief Executive Officer

John M. Markovich

Chief Financial Officer

Diane Nguyen

General Counsel

STOCK EXCHANGE

D-Wave's Common Shares and Warrants are traded on the NYSE under the ticker symbols "QBTS" and "QBTS.WT," respectively.

FORM 10-K

A copy of our Form 10-K filed with the SEC will be made available to all stockholders at no charge.

The Form 10-K can also be accessed through the SEC website at www.sec.gov, or through our Investor Relations website at www.ir.dwaveys.com.

To receive a copy by mail please contact:

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