PIVOTAL SYSTEMS

A DELAWARE CORPORATION

ARBN: 626 346 325

ASX Appendix 4E
Preliminary Final Report

For the year ended 31 December 2022

(Incorporating information pursuant to ASX listing rule 4.3A)

Table of Contents

Key Information

- **Results for Announcement to the Market**

	2021 US$'000	2022 US$'000	Up/Down %
Revenue from ordinary activities	29,245	18,243	Down 37.6 %
Gross Profit	8,901	1,554	Down 82.5%
Loss from Operations	-7,461	-13,983	Up 87.4%
Net loss attributable to common stockholders	-7,247	-14,513	Up 100.3 %

- **Review of Operations and Financial Results**

For the full year ending 31 December 2022, the Company recorded unaudited revenue of $18.2 million (2021: $29.2 million) which represents a 37.6% decrease driven by a lower demand as customers rebalance their inventory in part due to contraction in industry demand. As a result, unaudited gross profit decreased 82.5% (2021: $8.9 million). The lower customer demand is expected to continue with the Company's revenue anticipated to be significantly impacted for at least 1H 2023.

Operating expenses for the period were $15.5 million (2021: $16.4 million). These expenses include a 15% decrease in R&D costs ($0.8 million). Selling, general and administrative expenses were relatively flat versus prior year. The Company maintained its focus on inventory management, and careful spending in R&D projects, improving working capital balances. The Company continued to direct manufacturing towards fulfillment of backlog shipments.

Loss from Operations was $14.0 million (2021: $7.5 million), substantially higher than the prior period due to the impact from lower revenues and lower gross profit.

During 2022, Pivotal continued product development and research in three key areas. First, Pivotal focus on performance, creating an Ultra High Speed (UHS) GFC device capable of settling times 10x faster than any other device available in the industry. Second, Pivotal's R&D team concentrated on software enhancements for advanced digital profile control, with over 70 signals to monitor and custom control ECAT GFC performance. Third, Pivotal partnered with a Korean WFE OEM to develop prototypes for the fastest and most accurate Flow Ratio Control product platform on the market.

Atomic Layer Deposition product development with the leading Japanese OEM continues test and integration on OEM wafer processing equipment, as Pivotal continues to work with this OEM to qualify for volume production.

Standard GFCs are growing market share in deposition applications following successful silane qualification for a major North American Logic IDM, and qualification into critical deposition application with a major North American WFE OEM. These segments are part a deliberate initiative to expand beyond etch applications serving memory, into foundry/logic and deposition segments.

During 2022 the Company continued to experience supply shortages, such as PCBA component shortages which were heavily marked up by distributors, contributing to increased pressure on COGS.

- **Dividends**

  No dividends have been paid or are proposed to be paid by Pivotal Systems Corporation for the financial year 2021 (2020: $Nil).

- **Net Tangible Assets per share:**

	2021	**2022**
Net tangible assets per share * (US$ per share)	0.14	0.06

*Right of use asset in respect to property leases have been excluded from the calculation of net tangible assets.

- **Control Gained or Lost Over Entities**

  There were no changes in control over entities by Pivotal Systems Corporation or its wholly owned subsidiary during the financial year.

- **Details of Associates and Joint Venture Entities**

  The Company has no investments in associates or joint ventures during the reporting period.

- **Accounting Standards**

  The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States (U.S. GAAP).

- **Audit Status**

  This report is based on accounts which are in the process of being audited. The Company will require additional capital through the issuance of equity securities, debt financings or other sources in order to sustain operations and further implement its business plan. However, if such financing is not available when needed and at adequate levels, the Company will need to reevaluate its operating plan and may be required to curtail its business operations. As a result, the audited financial statements would include an emphasis of matter regarding substantial doubt about the Company's ability to continue as a going concern.

Kevin Hill (*Director*)
26 February 2023 (Fremont PST), 27 February 2023 (Sydney AEDT)

PIVOTAL SYSTEMS CORPORATION

CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share amounts)

	December 31, 2021	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	$ 3,988	$ 3,213
Trade accounts receivable, net	9,008	6,134
Inventories	6,857	7,410
Prepaid expenses	332	377
Other current assets	127	298
Total current assets	20,312	17,432
Property, plant and equipment, net	336	197
Right of use assets, net	697	420
Other assets	558	215
Total assets	$ 21,903	$ 18,264
Liabilities, Redeemable Preferred Stock and Stockholders' Equity		
Current liabilities:		
Trade accounts payable	$ 3,770	$ 4,366
Accrued expenses	880	1,143
Current portion of long-term debt	808	1,130
Current portion of operating lease liabilities	294	327
Other current liabilities	276	444
Total current liabilities	6,028	7,410
Operating lease liabilities, less current portion	473	146
Other liabilities	253	113
Total liabilities	6,754	7,669
Commitments and contingencies (Note 13)		
Redeemable preferred stock, par value $0.00001 per share, 13,000 shares authorized as of December 31, 2021 and 2022, 11,528 and 10,752 shares outstanding as of December 31, 2021 and December 31, 2022; aggregate liquidation preference of $14,260 and $15,378 as of December 31, 2021 and December 31, 2022	11,319	10,543
Stockholders' equity:		
Common stock, $0.00001 par value; 250,000,000 shares authorized as of December 31, 2021 and December 31, 2022; 128,546,316 and 159,503,750 shares issued and outstanding as of December 31, 2021 and December 31, 2022	1	1
Common prime stock, $0.00001 par value; 120,000,000 shares authorized as of December 31, 2021 and December 31, 2022; no shares issued and outstanding as of December 31, 2021 and December 31, 2022	—	—
Additional paid-in capital	115,630	125,977
Accumulated deficit	(111,801)	(125,926)
Total stockholders' equity	3,830	52
Total liabilities, redeemable preferred stock and stockholders' equity	$ 21,903	$ 18,264

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

PIVOTAL SYSTEMS CORPORATION

CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except share and per share amounts)

	Year Ended December 31, 2021	Year Ended December 31, 2022
Net product revenue	$ 27,652	$ 17,029
Service revenue	1,593	1,214
Total net revenue	29,245	18,243
Cost of goods sold	19,405	15,992
Cost of service revenue	939	697
Total costs of goods and service revenue	20,344	16,689
Gross profit	8,901	1,554
Operating expenses:		
Research and development	6,533	5,743
Selling, general and administrative	9,829	9,794
Total operating expenses	16,362	15,537
Loss from operations	(7,461)	(13,983)
Other income (expense):		
Interest expense	(120)	(71)
Foreign currency transaction loss	(12)	(35)
Gain on forgiveness of PPP loan	906	—
Other expense, net	(144)	(1)
Other income (expense)	630	(107)
Loss before provision for income taxes	(6,831)	(14,090)
Provision for income taxes	48	35
Net loss	$ (6,879)	$ (14,125)
Less deemed dividend to redeemable preferred stockholders	(368)	(388)
Net loss attributable to common stockholders, basic and diluted	$ (7,247)	$ (14,513)
Net loss per share attributable to common stockholders, basic and diluted	$ (0.06)	$ (0.09)
Weighted average common shares outstanding	123,711,465	155,059,607

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

PIVOTAL SYSTEMS CORPORATION

CONSOLIDATED STATEMENTS OF REDEEMABLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY
(in thousands, except share amounts)

	Redeemable Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Par Value			
Balance at December 31, 2020	10,000	$ 9,795	120,240,769	$ 1	$ 108,241	$ (104,922)	$ 3,320
Proceeds from the sale of redeemable preferred stock, net of issuance costs of $4	3,000	2,996	—	—	—	—	—
Issuance of shares upon institutional placement, net of issuance costs of $184	—	—	7,137,795	—	6,502	—	6,502
Issuance of common stock upon stock options exercise	—	—	1,167,752	—	293	—	293
Redeemable preferred stock redemptions	(1,472)	(1,472)	—	—	(368)	—	(368)
Stock-based compensation	—	—	—	—	962	—	962
Net loss	—	—	—	—	—	(6,879)	(6,879)
Balance at December 31, 2021	11,528	11,319	128,546,316	1	115,630	(111,801))	3,830
Issuance of shares upon funding-rights offering, net of issuance costs of $703	—	—	30,317,527	—	9,911	—	9,911
Issuance of common stock upon stock options exercise	—	—	639,907	—	117	—	117
Redeemable preferred stock redemptions	(776)	(776)	—	—	(388)	—	(388)
Stock-based compensation	—	—	—	—	707	—	707
Net loss	—	—	—	—	—	(14,125)	(14,125)
Balance at December 31, 2022	10,752	$ 10,543	159,503,750	$ 1	$ 125,977	$ (125,926)	$ 52

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

PIVOTAL SYSTEMS CORPORATION

CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended December 31, 2021	Year Ended December 31, 2022
Cash Flows from Operating Activities		
Net loss	$ (6,879)	$ (14,125)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	366	228
Non-cash lease expense	257	277
Stock-based compensation	962	707
Gain on forgiveness of PPP loan	(906)	—
Gain on sale of property, plant and equipment	(56)	—
Write off of deferred offering costs	2,190	—
Changes in operating assets and liabilities:		
Trade accounts receivable	(2,246)	3,041
Inventories	(40)	(553)
Prepaid expenses	(18)	(45)
Other current assets	34	(171)
Other assets	56	342
Trade accounts payable	505	596
Accrued expenses	(1,717)	263
Other liabilities	(538)	28
Operating lease liabilities	(264)	(294)
Net cash used in operating activities	(8,294)	(9,706)
Cash Flows from Investing Activities		
Purchase of property, plant and equipment	(185)	(72)
Net cash used in investing activities	(185)	(72)
Cash Flows from Financing Activities		
Proceeds from borrowings on long-term-debt	—	1,500
Payments on borrowings of long-term-debt	(1,000)	(1,195)
Proceeds from the exercise of stock options	293	117
Proceeds from the issuance of common stock, net of issuance costs	6,502	9,911
Proceeds from issuance of redeemable preferred stock, net of issuance costs	2,996	—
Payments on redemption of preferred stock	(1,840)	(1,164)
Payment of deferred offering costs	(2,023)	(167)

Net cash provided by financing activities	4,928	9,002
Net decrease in cash and cash equivalents	(3,551)	(776)
Cash and cash equivalents at beginning of year	7,539	3,988
Cash and cash equivalents at end of year	$ 3,988	$ 3,213
Supplemental disclosures of cash flow information:		
Cash paid for income taxes	$ 49	$ 35
Cash paid for interest	$ 96	$ 53
Non-cash investing and financing activities:		
Purchases of property, plant, and equipment in accounts payable	$ 9	$ —
Deferred issuance costs in accounts payable	$ 167	$ —
Gain of forgiveness of PPP loan	$ 906	$ —
Disposal of property, plant and equipment in exchange for note receivable	$ 278	$ —

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

PIVOTAL SYSTEMS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Nature of the Business and Basis of Presentation

Pivotal Systems Corporation, together with its consolidated subsidiary (the Company), designs, develops and manufactures flow monitoring and control technology products for the global semiconductor industry. The Company's proprietary hardware and software utilizes advanced machine learning to enable preventative diagnostic capability resulting in an order of magnitude increase in fab productivity and capital efficiency technology nodes. The Company is incorporated in Delaware, United States and has offices in Fremont, California, USA (headquarters) and third party contracted manufacturing and assembling facilities in Shenzhen, China and Dongtan, South Korea.

The Company's securities have been listed for quotation in the form of CHESS Depositary Interests, or CDIs, on the Australian Securities Exchange (the ASX) and trade under the symbol PVS since July 2, 2018. Legal title to the shares of common stock underlying the CDIs is held by CHESS Depositary Nominees Pty Ltd (CDN), a wholly owned subsidiary of the ASX. One CDI represents the beneficial interest in one share of common stock.

Cost Inflation

We have been experiencing significant cost inflation, including higher material, transportation and energy costs, which negatively impacted our results of operations during the year ended December 31, 2022. We expect cost inflation to continue to have a negative impact on our results of operations in 2023 and possibly beyond. To the extent materials, transportation and energy prices continue to fluctuate, our business and financial results could continue to be materially adversely impacted. We continue to monitor these risks and rely on our increased pricing to our customers, and cost savings programs to help mitigate some of the inflationary pressures.

Liquidity and Going Concern

The Company has incurred recurring losses and negative cash flows from operating activities since inception. The Company anticipates that it will continue to incur net losses into the near future. As of December 31, 2022, the Company had cash of $3.2 million and had an accumulated deficit of $125.9 million.

The Company believes that cash as of December 31, 2022, of $3.2 million, will not be sufficient to fund its planned operations for a period of at least twelve months from the date of the issuance of the accompanying consolidated financial statements.

Management expects to incur additional losses in the future to fund its operations and will need to raise additional capital to sustain operations and fully implement its business plan. The Company may raise additional capital through the issuance of equity securities, debt financings or other sources in order to further implement its business plan. However, if such financing is not available when needed and at adequate levels, the Company will need to reevaluate its operating plan and may be required to curtail its business operations.

The Company believes that this raises substantial doubt about its ability to continue as a going concern. The accompanying financial statements have been prepared assuming that the Company will continue as a going concern, which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business. The accompanying financial statements do not reflect any adjustments relating to the recoverability and reclassifications of assets and liabilities that might be necessary if the Company is unable to continue as a going concern.

2. Summary of Significant Accounting Policies

Basis of presentation and consolidation

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States (U.S. GAAP) and include the accounts and results of operations of the Company and its wholly owned subsidiary. All intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, and disclosures of contingencies at the date of the consolidated financial statements and the reported amounts of net revenue and expenses during the reporting period. Such estimates relate to revenue recognition, the useful lives of fixed assets, leases, allowances for doubtful accounts. Such estimates also relate to the net realizable value of inventory, accrued liabilities, the valuation of stock-based awards, deferred tax valuation allowances, and other reserves. On an ongoing basis, the Company evaluates its estimates. Actual results could differ from those estimates, and such differences may be material to the consolidated financial statements.

Business Segment Information

The Company operates in one segment which involves the technological design, development, manufacture, and sale of high-performance flow controllers. All the activities of the Company are interrelated, and each activity is dependent on the others. Accordingly, all significant operating disclosures are based upon analysis of the Company as one segment. The financial results of this segment are equivalent to the financial statements of the Company as a whole.

The chief operating decision maker, who is the Company's chief executive officer, measures financial performance as a single enterprise and not on legal entity or end market basis. Throughout the year, the chief operating decision maker allocates capital resources on a project-by-project basis across the Company's entire asset base to maximize profitability without regard to legal entity or end market basis.

Foreign Currency

The Company's consolidated financial statements are presented in U.S. Dollars. For each entity in the consolidated group, the Company determines the functional currency and items included in the financial statements of each entity are measured using that functional currency. As of and for the years ended December 31, 2021 and 2022, the Company has determined that the U.S. dollar is the functional currency of the entities in the consolidated group.

Transactions in foreign currencies are initially recorded by the Company's entities at their respective functional currency spot rates at the date the transaction first qualifies for recognition. Monetary assets and liabilities denominated in foreign currencies are translated at the functional currency spot rates of exchange at the reporting date. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transactions. Exchange differences arising on the remeasurement of monetary items are recognized in the consolidated statements of operations.

Credit Risk and Concentrations

Financial instruments that potentially subject the Company to a concentration of credit risk consist principally of cash and accounts receivable.

The Company places its cash in high credit quality financial institutions. Substantially all of the Company's cash is held at one financial institution that management believes is of high credit quality. Such deposits may, at times, exceed federally insured limits. In general, the Company's customers are not required to provide collateral or any other security to support accounts receivable. The Company performs ongoing credit evaluations of its customers and maintain an allowance for estimated credit losses. Bad debt expense was immaterial for the year ended December 31, 2021. For the year ended December 31, 2022, bad debt expense was $400,000.

Deferred offering costs

The Company capitalizes certain legal, professional accounting and other third-party fees that are directly associated with in-process equity financings as deferred offering costs, until such financings are consummated. After consummation of an equity financing, these costs are recorded as a reduction of the proceeds from the offering, either as a reduction to the carrying value of the preferred stock or in stockholder's deficit as a reduction of additional paid-in capital generated as a result of the offering. In December 2021 the Company wrote off $2,190,000 in deferred offering costs, due to delays and uncertainties around the Company's public listing in the United States.

Fair Value of Financial Instruments

Certain assets and liabilities are carried at fair value under U.S. GAAP. Fair value is the exchange price that would be received for an asset or paid to transfer a liability (at exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The Company establishes a fair value hierarchy that requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard describes three levels of inputs that may be used to measure fair value, which are provided below:

Level 1 – Quoted prices in active markets for identical assets or liabilities.

Level 2 — Observable inputs (other than Level 1 prices) such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 – Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. Assets and liabilities include financial instruments whose value is determined using pricing models, discounted cash flow methodologies, or similar techniques, as well as instruments for which the determination of fair value requires significant management judgment or examination.

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 carrying value of accounts receivable, accounts payable and accrued expenses approximate their respective fair value due to the short-term nature of these assets and liabilities. The carrying value of the term loan and outstanding borrowings under the line of credit agreement approximate fair value as they bear interest at a rate approximating a market interest rate.

Cash and cash equivalents

The Company considers all highly liquid investments with an original maturity date of three months or less at the date of purchase to be cash equivalents. Cash is maintained at financial institutions. The Company maintains all cash in a highly liquid form to meet current obligations.

Trade accounts receivable, net

A receivable is a right to consideration that is unconditional (i.e., only the passage of time is required before payment is due). Accounts receivables are presented net of an allowance for doubtful accounts, which is an estimate of amounts that may not be collectible.

The Company manages the collectability of accounts receivable primarily through its review of the accounts receivable aging. When facts and circumstances dictate the collection of a specific invoice amount or the balance relating to a customer is in doubt, the Company assesses the impact on amounts recorded for doubtful accounts and, if necessary, records a charge in the fiscal period that such assessment is determined. Adjustments to the allowance for doubtful accounts are recorded as selling, general and administrative expenses in the consolidated statements of operations. Account balances are written off after all means of collection are exhausted and the potential for non-recovery is determined to be probable.

Inventories

Inventories are stated at the lower of cost or net realizable value, with cost being determined on a first-in, first-out basis. The Company records inventory valuation adjustments when conditions exist that suggest that inventory may be more than anticipated demand, is obsolete based upon expected future demand for products and market conditions, or quality related rejections. These valuation adjustments are reported as a reduction to raw materials, work in process and finished goods. The Company regularly evaluates the ability to realize the value of inventory based on a combination of factors, including historical usage rates, forecasted sales or usage, and product end of life dates. Assumptions used in determining management's estimates of future product demand may prove to be incorrect, in which case the Company may need to record additional write offs of inventory. Although the Company performs a detailed review of its forecasts of future product demand, any significant unanticipated changes in demand could have a significant impact on the value of the Company's inventory and reported operating results.

Property, Plant and Equipment, Net

Property, plant and equipment, net, including improvements that significantly add to productive capacity or extend useful life, are stated at historical cost less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets. Maintenance and repairs expenditures are charged to expense as incurred. Estimated useful lives of the respective property, plant and equipment assets are as follows:

Asset	Useful Life
Plant and equipment	2 – 5 years
Furniture and fixtures	2 – 5 years
Computers and equipment	3 years
Software	2 years
Leasehold improvements	The shorter of the remaining term of the lease or estimated useful life

Leases

The Company accounts for leases in accordance with Accounting Standards Codification (ASC) ASC 842, which requires lessees to recognize leases on-balance sheet and disclose key information about leasing arrangements. ASC 842 was adopted as of January 1, 2019. The Company determines if a contract contains a lease based on whether it has the right to obtain substantially all the economic benefits from the use of an identified asset and whether we have the right to direct the use of an identified asset in exchange for consideration, which relates to an asset which the Company does not own. Right-of-use (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 the lease. ROU assets are recognized as the lease liability, adjusted for lease incentives received and prepayments made. Lease liabilities are recognized at the present value of the future lease payments at the lease commencement date. The interest rate used to determine the present value of the future lease payments is our incremental borrowing rate (IBR) because the interest rate implicit in most of our leases is not readily determinable.

The IBR is a hypothetical rate based on the Company's understanding of what its credit rating would be. Lease payments may be fixed or variable; however, only fixed payments or in-substance fixed payments are included in the Company's lease liability calculation. Variable lease payments are recognized in operating expenses in the period in which the obligation for those payments is incurred.

The ROU asset also includes any initial direct costs and any lease payments made prior to the lease commencement date and is reduced by any lease incentives received. The ROU asset is amortized on a straight-line basis as the operating lease cost over the lease term on the consolidated statements of operations. ROU asset amortization, referred to as non-cash lease expense, along with the change in the operating lease liabilities are separately presented within the cash flows from operating activities on the consolidated statements of cash flows.

Impairment of Long-Lived Assets

Long-lived assets are tested for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable. Factors that the Company considers in deciding when to perform an impairment review include significant underperformance of the business in relation to expectations, significant negative industry or economic trends and significant changes or planned changes in the use of the assets. If an impairment review is performed to evaluate a long-lived asset for recoverability, the Company compares forecasts of undiscounted cash flows expected to result from the use and eventual disposition of the long-lived asset to its carrying value. If such assets are considered to be impaired, the impairment to be recognized is measured as the amount by which the carrying amount of the assets exceeds the fair value of the assets. To date, the Company has not recorded any impairment losses on long-lived assets. If such assets are not impaired, but their useful lives have decreased, the remaining net book value is amortized over the revised useful life.

Product Warranties

The Company provides warranties on its products to its customers, generally for one to three years from the date of shipment. In the event of a failure of a product covered by these warranties, the Company must repair or replace the product or, if those remedies are insufficient, and at the discretion of the Company, provide a refund. The Company periodically assesses the adequacy of the warranty reserve and adjusts the amount as necessary. If there is a material increase in the rate of customer claims, or the Company's estimates of probable losses relating to specifically identified warranty exposures are inaccurate, the Company may need to record a charge against future cost of goods sold. As of December 31, 2021 and 2022, the Company had accrued warranty reserves of $115,000 and $267,000, respectively.

Redeemable Preferred Stock

The Company classifies redeemable preferred stock outside of stockholders' equity because, upon the occurrence of certain change in control events that are outside the Company's control, including liquidation, sale or transfer of the Company's assets, or events of default, holders of the redeemable preferred stock can cause redemption for cash. If it becomes probable that the shares will become redeemable, the Company will re-measure the carrying value of the shares to the redemption value through the redemption date. As of December 31, 2022, no remeasurements were required, as the Company determined that the shares were not probable of becoming redeemable. The Company analyzed all embedded derivatives and beneficial conversion features for its redeemable preferred stock and concluded that none requires bifurcation.

Revenue Recognition

The Company earns revenue from contracts with customers, primarily through the design, development, manufacture and sale of flow controllers. Contracts are priced based on specific negotiations with each customer. The Company records revenue under ASC 606.

Under the guidance of ASC 606, revenue is recognized when transfer of control to the customer occurs in an amount reflecting the consideration that the Company expects to be entitled. To achieve this core principle, the Company applies the following five step approach:

(1) *Identify the contract with a customer* — The Company considers distributor or sales representative agreements, together with purchase orders, as well as individual customer purchase

orders to be customer contracts. A contract exists when it is approved by both parties, each party's rights and obligations are identified, payment terms are known, customer has the ability and intent to pay and the contract has commercial substance. The Company uses judgement in determining the customer's ability and intent to pay, which is based on factors such as the customer's historical payment experience.

(2) *Identify the performance obligations in the contract* — Performance obligations are identified as products and services that will be transferred to the customer that are both capable of being distinct, whereby the customer can benefit from the product or service either on its own or together with other resources that are readily available from third parties or from the Company, and are distinct in the context of the contract, whereby the transfer of the products or services is separately identifiable from other promises in the contract. Substantially, all the Company's contracts with customers contain single performance obligation, such as the sale of flow controllers.

(3) *Determine the transaction price* — The transaction price is determined based on the consideration to which the Company expects to be entitled in exchange for transferring products to the customer. The transaction price may include variable consideration. Variable consideration is included in the transaction price if, in the Company's judgment, it is probable that no significant future reversal of cumulative revenue under the contract will occur.

(4) *Allocate the transaction price to the performance obligations in the contract* — If the contract contains a single performance obligation, the entire transaction price is allocated to that performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligations based on a relative standalone selling price (SSP). For the periods ended December 31, 2021 and 2022, contracts including multiple performance obligations are infrequent.

(5) *Recognize revenue when a performance obligation is satisfied* — Revenue is recognized when control of the product is transferred to the customer (i.e., when the Company's performance obligation is satisfied), which typically occurs point in time at shipment. The Company records product sales net of discounts, sales returns and allowances.

Service revenue

Service revenue is recognized upon transfer of control of promised services to customers in an amount that reflects the consideration that the Company expects to receive in exchange for those products or services. These services are regularly sold on a stand-alone basis. Contracts that include the provision of services are typically related with repair services, which are generally capable of being distinct and accounted for as separate performance obligations. Repair services are typically sold on a time and materials basis and related revenue is recognized once the repaired product is shipped or delivered to the customer. These services are provided at a point in time.

ASC 606 defines "control" as "the ability to direct the use of, and obtain substantially all of the remaining benefits from, the asset." The Company first determines whether control of a service is transferred over time when at least one of the following criteria is met:

- The customer simultaneously receives and consumes the benefits provided by the entity's performance as the entity performs.
- The entity's performance creates or enhances an asset that the customer controls as the asset is created or enhanced.
- The entity's performance does not create an asset with an alternative use to the entity and the entity has an enforceable right to payment for performance completed to date.

If a performance obligation is satisfied over time, the Company recognizes revenue by measuring progress toward satisfying the performance obligation in a manner that faithfully depicts the transfer of goods or services to the customer. Considering that repair services are generally satisfied when the

Company has transferred physical possession of the repaired product, the related revenue is recognized at a point in time.

Sales channels

The Company sells products and services primarily in the United States and Asia through its direct sales force, third party distributors and independent sales representatives. When the Company transacts with a distributor, its contractual arrangement is with the distributor and not with the end user. Whether the Company transacts business with and receives the order from a distributor or directly from an end user, its revenue recognition policy and resulting pattern of revenue recognition for the order are the same.

The Company also uses independent sales representatives to assist in the sales process with certain customers. Sales representatives are not distributors. If a sales representative is engaged in the sales process, the Company receives the order directly from and sells the products directly to the end customer. The Company pays a commission to the sales representative, calculated as a percentage of the related customer payment. Sales representatives commissions are recorded as expenses when incurred and are classified as sales and marketing expenses in the Company's consolidated statements of operation.

Variable consideration

Variable consideration includes returns for which reserves are established. When applicable, these reserves are based on the amounts earned or claimed on the related sales and are classified as reductions of accounts receivable. Where appropriate, these estimates take into consideration the Company's historical experience, current contractual and statutory requirements, industry data and forecasted customer buying and payment patterns.

Practical expedients elected

The Company elected certain practical expedients with the adoption of the new revenue recognition standard. The length of time between revenue recognition and payment is not significant under any of the Company's payment terms. However, if the period between revenue recognition and when the customer pays is one year or less, the Company elected to not account for the significant financing component. In addition, the Company expenses incremental costs of obtaining a contract as and when incurred because the expected amortization period of the asset that the Company would have recognized is one year or less.

Other Revenue Recognition Policies

Shipping and handling activities are not considered a fulfillment cost. The Company records shipping and handling costs as a cost of goods sold.

Contract Assets and Contract Liabilities

Contract liabilities (deferred revenue) consist of advance consideration received from customers and billings more than revenue recognized as deferred revenue, which precede the Company's satisfaction of the associated performance obligations. The Company's contract liabilities primarily result from customer payments received upfront for performance obligations that are satisfied at a point in time. Contract liabilities are recognized as revenue when the goods are delivered to the customer. As of December 31, 2021, and 2022, the Company had contract liabilities of $37,000, and $0, respectively. Revenue recognized from contract liabilities were $538,000 and $37,000 for the periods ended December 31, 2021, and 2022, respectively. Deferred cost of goods sold was immaterial for the Company as of December 31, 2021 and 2022.

Due to the relationship between the Company's performance and the customer's payment, the Company typically does not have conditional rights to consideration in exchange for goods or services transferred to a customer. Generally, the Company has the right to bill the customer as goods are delivered and services are provided, which results in the Company's right to payment being unconditional. Therefore, the Company does not have contract assets as of December 31, 2021, or December 31, 2022.

Due to the nature of the product, each contract with a customer has distinct performance obligations that are capable of being distinct on their own and within the context of the contract. In addition, based on the contract terms, which generally include performance obligations subject to cancellation terms, the Company does not have material unsatisfied performance obligations.

Research and Development Expenses

Research and development costs consist primarily of salaries, employee benefits, depreciation, amortization, overhead, outside contractors, facility expenses, and non-recurring engineering fees. Expenditures for research and development are charged to expense as incurred.

Stock-Based Compensation

The Company recognizes compensation costs for all stock-based compensation awards made to employees based upon the awards' grant-date fair value. The fair value of the equity-settled share options granted throughout the year is estimated as at the date of grant using a Black Scholes Option Pricing Model. Stock-based compensation expense is recognized evenly over the requisite service period, which is generally the vesting period. The Company accounts for forfeitures as they occur. Determining the fair value of the stock-based compensation awards at the grant date requires judgment, including estimated the expected term of the stock awards and the volatility of the underlying market-based and projected future cash flow assumptions. Any changes to those estimates that the Company makes from time to time may have a significant impact on the stock-based compensation expense recorded and could materially impact the Company's results of operations.

Income Taxes

The Company accounts for income taxes using the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial statement and tax basis of assets and liabilities, as measured by enacted tax rates anticipated to be in effect when these differences are expected to reverse. This method also requires the recognition of future tax benefits to the extent that realization of such benefits is more likely than not. Deferred tax expense or benefit is the result of changes in the deferred tax assets and liabilities. The Company assesses the likelihood that its deferred tax assets will be recovered from future taxable income and, to the extent it believes, based upon the weight of available evidence, it is more likely than not that some or all the deferred tax assets will not be realized, a valuation allowance is established.

The Company recognizes a liability for potential payments of taxes to various tax authorities related to uncertain tax positions and other tax matters. The recorded liability is based on a determination of whether and how much of a tax benefit taken by the Company in its tax filings or positions is "more likely than not" to be realized. The amount of the benefit that may be recognized in the consolidated financial statements is the largest amount that has a greater than 50% likelihood of being realized upon ultimate settlement. To the extent that the assessment of such tax positions changes, the change in estimate is recorded in the period in which the determination is made. The Company establishes a liability, which is included in other long-term liabilities in the consolidated balance sheets, for tax-related uncertainties based on estimates of whether, and the extent to which, additional taxes will be due. These liabilities are established when the Company believes that certain positions might be challenged despite the Company's belief that the tax return positions are fully supportable. The recorded liability is adjusted considering changing facts and circumstances. The provision for income taxes includes the impact of the recorded liability and the related changes.

When incurred, the Company recognizes interest and penalties related to uncertain tax positions as a component of income tax provision in the consolidated statements of operations. Accrued interest and penalties are included in accrued income taxes in the consolidated balance sheets.

Net Loss Per Share

The Company computes net loss per share in accordance with ASC 260, *Earnings Per Share* (ASC 260). Basic net loss per share is computed by dividing net loss attributable to shareholders of the Company by the weighted-average number of common shares outstanding during the reporting period. Diluted loss per share is computed similarly to basic net loss per share, except that it includes the potential dilution that could occur if dilutive securities were exercised. Information about potentially dilutive and antidilutive shares for the reporting period is provided in Note 14 - Net Loss per Share.

Concentrations of Credit Risk and Significant Customers

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of cash and accounts receivable. To manage credit risk related to accounts receivables, the Company evaluates its creditworthiness of its customers and maintains allowances, to the extend necessary, for potential credit losses based upon the aging of its accounts receivable balances and known collection issues. There were no expected credit losses as of December 31, 2021 and 2022.

Geographically, the Company has the following revenue information based on the location of its customers during the years ended December 31, 2021 and 2022 (in thousands):

	2021	2022
Asia	$ 7,673	$ 8,270
North America	21,572	9,973
	$ 29,245	$ 18,243

The categorization of net sales by geography is determined based on the location the products are being shipped to.

The following customers accounted for more than 10% of revenues during the years ended December 31, 2021 and 2022:

	2021	2022
Customer A.	38%	51%
Customer B	17%	18%
Customer C	17%	17%
Customer D	17%	7%
	89%	93%

The following customers accounted for more than 10% of accounts receivable during the years ended December 31, 2021 and 2022:

	2021	2022
Customer A.	31%	46%
Customer B	28%	19%
Customer C	4%	5%
Customer D	0%	0%
Customer E	14%	9%
Customer F	0%	15%
	77%	94%

Impact of Recently Issued Accounting Standards

In June 2016, the Financial Accounting Standards Board (FASB) FASB issued ASU No. 2016-13, "Measurement of Credit Losses on Financial Instruments" (ASU 2016-13), which adds an impairment model (known as the current expected credit loss (CECL) model) that is based on expected losses rather than incurred losses. Under the new guidance, an entity recognizes as an allowance its estimate of expected credit losses, which the FASB believes will result in more timely recognition of such losses. The ASU is also intended to reduce complexity by decreasing the number of credit impairment models that entities use to account for debt instruments. The FASB subsequently issued ASU 2018-19, ASU 2019-04, and ASU 2019-10, which clarified the implementation guidance and effective date of Topic 326. Topic 326 is effective for the Company beginning fiscal year 2023. The Company is currently evaluating the impact of the adoption of this standard on the Company's consolidated financial statements.

There are no recently issued accounting standards which have not been previously adopted which are expected to have a material impact on the Company's financial statements.

3. Revenue from Customers

The Company earns revenue from customers, primarily through the design, development, manufacture, and sale of flow controllers. The following table summarizes net revenues disaggregated by type of customer for the years ended December 31, 2021 and 2022. The categorization of net revenues by customer type is determined using various characteristics of the product and the application into which the Company's product will be incorporated.

Net revenues by core end market and application were as follows for the years ended December 31, 2021 and 2022 (in thousands):

	2021	2022
Customer type:		
Integrated device manufacturer (IDM)	$ 5,994	$ 3,670
Original equipment manufacturer (OEM)	23,251	14,573
Total net revenue	$ 29,245	$ 18,243

The Company recognizes revenues net of discounts.

Unsatisfied performance obligations primarily represent contracts for products with future delivery dates. The Company elected to not disclose the amount of unsatisfied performance obligations as these contracts have original expected durations of less than one year.

4. Trade Accounts Receivable, net

Trade accounts receivable, net consists of the following (in thousands):

	December 31, 2021	December 31, 2022
Trade accounts receivable	$ 9,008	$ 6,134
Less:		
Allowance for doubtful accounts	—	—
Total trade accounts receivable, net	$ 9,008	$ 6,134

5. Inventories

Inventories include material, labor and overhead and consists of the following (in thousands):

	December 31, 2021	December 31, 2022
Raw materials	$ 4,276	$ 4,525
Work in process	1,357	628
Finished goods	1,224	2,257
Total inventories	$ 6,857	$ 7,410

As of December 31, 2021 and 2022, the Company recorded inventory provisions totaling $994,000 and $775,000, respectively.

6. Property, Plant and Equipment, net

Property, plant and equipment, net is stated at cost, and consists of the following (in thousands):

	December 31, 2021	December 31, 2022
Furniture and fixtures	$ 121	$ 121
Computers and equipment	1,937	2,009
Software	125	125
Leasehold improvements	130	130
Total property, plant and equipment, gross	2,313	2,385
Less: accumulated depreciation	(1,976)	(2,188)
Total property, plant and equipment, net	$ 336	$ 197

The Company recorded depreciation expense in the following categories of its consolidated statements of operations during the years ended December 31, 2021 and 2022 (in thousands):	2021	2022
Cost of goods sold	$ —	$ —
Selling, general and administrative	59	63
Research and development	284	149
Total depreciation expense	$ 343	$ 212

The geographic locations of the Company's long-lived assets, net, based on physical location of the assets, as of December 31, 2021 and December 31, 2022 were as follows (in thousands):

	December 31, 2021	December 31, 2022
United States	$ 293	$ 188
South Korea	43	9
Total property, plant and equipment, net	$ 336	$ 197

7. Prepaid Expenses

The composition of prepaid expenses is as follows (in thousands):

	December 31, 2021	December 31, 2022
Prepaid insurance	$ 215	$ 262
Prepaid expenses	117	115
Total	$ 332	$ 377

8. Accrued Expenses

The composition of accrued expenses is as follows (in thousands):

	December 31, 2021	December 31, 2022
Accrued other	$ 91	$ —
Accrued expenses	254	587
Accrued salaries and wages	5	7
Accrued vacation	530	549
Total	$ 880	$ 1,143

9. Other Current Liabilities

The composition of other current liabilities is as follows (in thousands):

	December 31, 2021	December 31, 2022
Contract liabilities	$ 37	$ —
Accrued warranties	115	267
Deferred product refunds	11	—
Deferred gain on sale of property, plant and equipment	113	177
Total	$ 276	$ 444

Changes in the Company's accrued warranties account were as follows (in thousands):

	Accrued Warranties
Balance at December 31, 2020	$ 115
Warranty expense	204
Settled and expired warranties	(204)
Balance at December 31, 2021	115
Warranty expense	466
Settled and expired warranties	(314)
Balance at December 31, 2022	$ 267

10. Notes Payable

On August 27, 2019, the Company entered into a financing agreement with Bridge Bank, a division of Western Alliance Bank. The financing agreement includes a revolving line of credit with a maximum borrowing capacity of $7.0 million (revolving credit line), and a term loan line of credit with a maximum borrowing capacity of $3.0 million (term loan).

The amount of liquidity available under the revolving credit line is based on the Company's balances and composition of eligible customer receivables and inventory, as well as other factors. As of December 31, 2022, the amount available under the revolving credit line was $2.2 million however, amounts above $1.5 million may only be drawn with the prior consent of the holder of the Company's Redeemable Preferred Stock. Amounts borrowed under the revolving credit line mature and become due and payable in 24 months from the date of borrowing, unless extended by the parties. The agreement was amended on September 27, 2021, extending the maturity date of the revolving credit line to September 27, 2023. The revolving credit line bears interest at a rate equal to 1% above the prime rate, floating on the average outstanding balance. As of December 31, 2021 and 2022, the outstanding balance of the revolving credit line was $0 and $1.13 million, respectively. As of December 31, 2022, the interest rate for the revolving credit line was 8.50%.

On September 3, 2019, the Company drew $3.0 million on the term loan. As of December 31, 2021 and 2022, the outstanding balance of the term loan was $750,000 and $0, respectively.

The financial covenants of the revolving credit line require an adjusted current ratio of at least 1.25:1.00, including liquidity, for which the Company must maintain unrestricted cash and cash equivalents with the lender of not less than $2.0 million at any time. The Company was in compliance with the financial covenants of its borrowing facilities outstanding as of December 31, 2021 and December 31, 2022.

The revolving credit line is secured by all tangible and intangible assets of the Company.

The agreement was amended on August 20, 2021 (2^{nd} amendment) and September 27, 2021 (3^{rd} amendment). These amendments extended only to the revolving line of credit. The 2^{nd} amendment extended the term of the agreement by 30 days to September 26, 2021. The 3^{rd} amendment extended the revolving line of credit maturity date to September 27, 2023, and reduced the liquidity requirement to $500,000 from $2,000,000, for the remaining 2-year term. These amendments were accounted for as modifications.

On April 20, 2020, the Company entered a Promissory Note with Western Alliance Bank as the lender (Lender), pursuant to which the Lender agreed to make a loan to the Company under the Payroll Protection Program (PPP Loan) offered by the U.S. Small Business Administration (SBA) in a principal amount of $0.9 million pursuant to Title 1 of the Coronavirus Aid, Relief and Economic Security Act (CARES). The loan was forgiven in January 2021, resulting in a gain on loan forgiveness of $0.9 million, which has been recorded within gain on forgiveness of PPP loan on the consolidated statement of operations.

Maturities of long-term debt, net of debt costs, are as follows (in thousands):

Year Ending December 31,	Future Maturities of Notes Payable
2023	$ 1,130
Total	$ 1,130

11. Leases

The Company's operating lease liabilities as of December 31, 2021 and 2022 are comprised of future payments related to the Company's operating lease agreement for office space, and operating lease for office equipment. Total lease costs for the years ended December 31, 2021 and 2022 were as follows (in thousands):

	2021	2022
Operating lease costs	$ 319	$ 303

The following table presents the weighted average remaining lease term, and weighted-average discount rates related to the Company's operating leases:

	December 31, 2021	December 31, 2022
Weighted average remaining lease term (in months)	28	16
Weighted average discount rate	7.5%	7.5%

Future minimum payments on operating lease liabilities as of December 31, 2022, are as follows (in thousands):

Year Ending December 31,	
2023	$ 350
2024	148
Total minimum lease payments	498
Less: Imputed interest	(24)
Total	$ 473

12. Commitments and Contingencies

Legal proceedings

From time to time, the Company becomes subject to various legal proceedings and claims, the outcomes of which are subject to significant uncertainty. The Company records an accrual for legal contingencies when it is determined that it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. In making such determinations, the Company evaluates, among other things, the degree of probability of an unfavorable outcome and, when it is probable that a liability has been incurred, the ability to make a reasonable estimate of the loss. If the occurrence of liability is probable but not estimable, the Company will disclose the nature of the contingency, or if reasonably possible and estimable, will also provide the likely amount of such loss or range of loss. Furthermore, the Company does not believe there are any matters that could have a material adverse effect on financial position, results of operations or cash flows.

Flow Device and Systems, Inc. ("Flow Device") has filed a lawsuit against the Company in the United States District Court Central District of California Southern Division (Case No. 8:21-cv-02089) claiming that certain of the Company's products infringe U.S. Patent No. 7,204,158, of which Flow Device purports to be the exclusive licensee. The Company believes this lawsuit is without merit and will defend itself vigorously.

Indemnification

From time to time, the Company has agreed to indemnify and hold harmless certain customers for potential allegations of infringement of intellectual property rights and patents arising from the use of its products. To date, the Company has not incurred any costs in connection with such indemnification arrangements; therefore, there was no accrual of such amounts as of December 31, 2021, or December 31, 2022.

Purchase Commitments

The Company has current third-party purchase obligations for supplies and manufacturing services with two vendors. The minimum purchase obligations expire by February 2025. The Company made third-party purchases under the commitments totaling $3.2 million and $3.4 million during the years ended December 31, 2021 and December 31, 2022, respectively.

The estimated annual minimum purchase commitments with the suppliers were as follows (in thousands):

Year Ending December 31,	
2023	2,117
2024	2,000
2025	250
Total	$ 4,367

13. Common and Redeemable Preferred Stock

Common Stock

The holders of common stock participate in dividends and the proceeds on the winding up of the Company in proportion to the number of and amounts paid on the shares held. The fully paid common stock has a par value of $0.00001 and the Company has designated authorized capital of 250,000,000 shares of common stock.

Holders of common stock are entitled to one vote for each share of common stock held. There shall be no cumulative voting. Holders are also entitled to receive, when, as and if declared by our board, out of any assets of the Company legally available therefore, any dividends as may be declared from time to time by our board.

Common Prime Stock

The holders of Common Prime Stock are not entitled to any voting rights or powers, except as otherwise required by law. They are also not entitled to share in any dividends or other distributions of cash, property or shares of the Company as may be declared by our board on the Common Prime Stock. The fully paid Common Prime Stock has a par value of $0.00001 and the Company has designated authorized capital of 120,000,000 shares of Common Prime Stock. At December 31, 2021 and 2022 there was no common prime stock issued and outstanding.

Redeemable Preferred Shares

The authorized capital of the Company includes 13,000 shares of redeemable preferred stock, $0.00001 par value per share, 13,000 of which have been designated redeemable preferred stock. 10,000 shares of redeemable preferred stock were issued in 2020. On June 2, 2021, the Company received $3.0 million funding from the issuance of a further 3,000 shares of redeemable preferred stock to Anzu RBI Mezzanine Preferred LLC (Anzu RBI). The issue costs related with this financing were

$4,000. Anzu RBI is entitled to a non-cumulative priority preference dividend of 2%, payable at the Company's discretion.

At any time prior to or on the first anniversary of the original issue date, the redemption price is 120% of the original issue price, plus any unpaid dividends. On the day after the first anniversary of the issuance date, and on each anniversary thereafter, the redemption price increases to the original issue price plus the product of $250 dollars multiplied by the number of years from original issuance. The calculation does not include fractional year increases.

As per the Investment Agreement, the "First Redemption" of redeemable preferred stock will be redeemable based on the aggregate amounts attributed to the prior 10 months (4.0% of net revenues/month). After the First Redemption, subsequent redemptions of shares of redeemable preferred stock will occur on a quarterly basis and will be based on an amount equal to 4.0% of the Company's previous financial quarter revenues. The number of redeemable preferred shares to be redeemed during the quarter is based on the established share price, as defined in the Investment Agreement. If the Company fails to make an anticipated redemption, Anzu RBI may send notice to state that the anticipated redemption has not been made. The Company would have a 30-day period to make the anticipated redemption. If the anticipated redemption is not made at the end of the period, the redeemable preferred stock redemption price would increase to the greater of the current share price plus $1,000, or $3,000. If the Company fails to make a demanded redemption, the outstanding amount accrues interest at the lower of 17% or the maximum permissible interest rate which is secured on the assets of the Company.

The Company is required to deposit an amount equal to 4.0% of the financial quarter revenues into a bank account to be used for no other purpose than to redeem shares of redeemable preferred stock pursuant to the Investment Agreement. After the first redemption is made, the Company is no longer required to make these deposits or maintain the related bank account. While the total value payable is fixed based on quarterly revenue, the number of shares of redeemable preferred stock to be redeemed decreases if an anticipated redemption is not made. The Company has no contractual obligation to redeem shares of redeemable preferred stock. In the event of a failure to make an anticipated redemption, the Company may indefinitely delay or defer cash settlement at the increased settlement price.

During the year ended December 31, 2021, the First Redemption occurred, and during 2021 the Company redeemed 1,472 redeemable preferred shares at $1,250 per share for a total of $1.84 million. During the year ended December 31, 2022, the Company redeemed 776 redeemable preferred shares at $1,500 per share for a total of $1.16 million. The amount of consideration paid by the Company to redeemable preferred stockholders' in excess of the amount originally contributed by such shareholders was treated a deemed dividend to the preferred shareholder. The Company recorded deemed dividends in the amounts of $368,000 and $388,000 for the years ended December 31, 2021 and 2022 respectively. The Company has adjusted its net loss per share computation to reflect the value given to redeemable preferred stockholders by the Company (refer to Note 14).

There is no fixed term to the redemption period on the redeemable preferred stock. The Company will redeem shares of redeemable preferred stock upon the occurrence of insolvency, liquidation or similar bankruptcy; an event of default; a change of control or if the Company disposes all or substantially all its assets, property or business.

The redeemable preferred stock carries voting rights of one vote per share during a period in which a dividend or part of a dividend in respect to redeemable preferred stock is in arrears (declared but not paid), or during the winding up of the Company.

The redeemable preferred stock also carry voting rights of one vote per share, on a proposal:

- that affects rights attached to redeemable preferred stock;
- to wind up the Company; or
- for the disposal of the property, business and undertaking of the Company.

The redeemable preferred stock carries voting rights of one vote per share, on a resolution to approve:

- the terms of a share buy-back arrangement, other than the buy-back of redeemable preferred stock; or
- a reduction in share capital of the Company, other than a reduction with respect to redeemable preferred stock.

14. Net Loss per Share

The following table sets forth the computation of basic and diluted net loss per share attributable to common stockholders (in thousands, except share and per share amounts):

	2021	2022
Net loss	$ (6,879)	$ (14,125)
Less: Deemed dividend to redeemable preferred stockholders	(368)	(388)
Net loss attributable to common stockholders	(7,247)	(14,513)
Weighted average basic and diluted common share	123,711,465	155,059,607
Net loss per share attributable to common stockholders – basic and diluted	$ (0.06)	$ (0.09)

Basic net loss per share has been computed by dividing the net loss by the weighted-average number of shares of common stock outstanding during the period. Diluted net loss per share is calculated by dividing net loss by the weighted average number of shares of common stock and potentially dilutive securities outstanding during the period. Because the Company is in a net loss position, diluted net loss per share excludes the effects of common stock equivalents consisting of issued and outstanding stock options which are antidilutive. It also excludes the impact of redeemable preferred stock, as they are not convertible into common stock.

The following outstanding potentially dilutive shares were excluded from the computation of diluted net loss per share attributable to common stockholders for the periods presented, because including them would have been anti-dilutive (on an as-converted basis):

	As of December 31,	
	2021	2022
Redeemable preferred stock	9,795	11,319
Common stock options issued and outstanding	16,548,497	21,126,463
	16,558,292	21,137,782

15. Stock-Based Compensation

The Company grants stock options to its employees, directors, and consultants for a fixed number of shares with an exercise price equal to or greater than the fair value of the common stock at the date of grant. Granted options expire no later than 10 years from the date of grant and generally vest over a four-year period, with 25% vesting on the first anniversary of the grant date and monthly thereafter.

The 2012 Equity Incentive Plan (the Plan) adopted on June 29, 2012, as amended on June 20, 2019, authorizes the Company to grant incentive stock options and non-statutory stock options to employees, directors, and consultants for up to 26,965,000 shares of common stock as of December 31, 2021. The 2012 Plan expired on May 18, 2022. There are 14,517,297 unexercised options under the 2012 Plan as of December 31, 2022.

The 2022 Equity Incentive Plan (the "2022 Plan") adopted on April 26, 2022, authorizes the Company to grant incentive stock options and non-statutory stock options to employees, directors, and consultants for up to 12,000,000 shares of common stock as of December 31, 2022. Incentive Stock Options (ISOs) may be granted only to employees. Nonqualified stock options may be granted to employees, directors and consultants. The Company issues new shares of common stock upon the exercise of stock options.

The Company granted awards with service conditions. Awards generally vest 25% on the first anniversary of the grant date and one forty-eighth each month thereafter. The service condition requires continuous employment for a duration of time that once achieved will vest a portion, or tranche, of the grant. The awards have contract term of 10 years.

The Company used Black-Scholes option pricing model to estimate the fair value of option awards using the following assumptions during the years ended December 31, 2021 and 2022:

	2021	2022
Expected volatility	59.3% – 67.3%	59.1% - 70.4%
Risk-free interest rate	0.59% – 1.06%	1.17% – 4.36%
Expected dividend	—%	—%
Expected term (in years)	4 years	1 - 4 years
ASX market price	$0.63 – $1.21	$0.05 – $0.63

The expected term of options granted to employees is based on the expected life of the stock options, giving consideration to the contractual terms and vesting schedules. The expected volatility reflects the assumption that the historical volatility over a period similar to the life of the options is indicative of future trends, which may not be the actual outcome. The dividend yield was based on the Company's dividend history and the anticipated dividend payout over its expected term. The risk-free interest rate was based on the U.S. Treasury yield curve in effect at the time of grant and with a maturity that approximated the Company's expected term. The following table summarizes the stock awards activity for the fiscal years ended as follows:

	Number of Shares	Weighted-Average Exercise Price Per Share	Weighted-Average Grant Date Fair Value	Weighted-Average Remaining Contractual Life (In years)
Outstanding – December 31, 2021	16,548,497	$ 0.60	$ 0.24	6.09
Granted	6,873,500	0.10	0.0404	
Exercised	(639,907)	0.18		
Forfeited	(567,399)	0.79		
Expired	(1,088,228)	0.77		
Outstanding – December 31, 2022	21,126,463	$ 0.43	$ 0.17	6.03
Vested and expected to vest as of December 31, 2022	19,819,294	$ 0.45		6.36
Options exercisable as of December 31, 2022	13,066,312	$ 0.52		4.80

As of December 31, 2022, 13,062,098 options had vested. The Company recognizes forfeitures as they occur. As of December 31, 2021 and December 31, 2022, the intrinsic value of options outstanding was $3.5 million and $0, respectively. During the years ended December 31, 2021 and December 31, 2022, the intrinsic value of options exercised was $0.9 million and $0.1 million, respectively. As of December 31, 2021 and 2022, the aggregate intrinsic value of options vested and expected to vest was $3.5 million and $0, respectively. As of December 31, 2021 and 2022, the aggregate intrinsic value of options exercisable was $3.5 million and $0, respectively. During the years ended December 31, 2021 and December 31, 2022, the grant date fair value of shares vested was $2.0 million and $2.6 million, respectively.

As of December 31, 2022, there was $0.9 million of compensation costs related to non-vested awards granted under the Company's equity incentive plans not yet recognized in the financial statements. The unrecognized compensation cost is expected to be recognized over a weighted average period of 2.5 years.

The Company recorded stock-based compensation expense in the following expense categories of its consolidated statements of operations during the years ended December 31, 2021 and 2022 (in thousands):

	2021	2022
Cost of goods sold	$ 59	$ 50
Research and development	323	141
Selling, general and administrative	580	516
Total stock-based compensation	$ 962	$ 707

16. Income Taxes

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The following table presents the significant components of the Company's deferred tax assets and liabilities (in thousands):

	December 31, 2021	December 31, 2022
Net operating loss carryforward	$ 12,212	$ 15,647
Research and development credits	1,437	2,796
Depreciation and amortization	151	190
Reserves and accruals	585	603
Total deferred tax assets	14,385	19,236
Valuation allowance	(14,385)	(19,236)
Net deferred tax assets	$ —	$ —

Based on historical losses and the expectation of future losses, management cannot conclude that it is more likely than not that the net deferred tax assets will be realizable. Accordingly, the Company has provided a full valuation allowance against its net deferred tax assets at December 31, 2021 and 2022. The Company's deferred tax assets are primarily related to net operating loss carryforwards. The Company's valuation allowance increased by $1.9 million and increased by $1.6 million for the years ended December 31, 2021, and 2022, respectively. The change in the valuation allowance for both years are primarily due to the addition of net operating losses carryforward.

As of December 31, 2022, the Company had federal and state net operating loss carry-forwards of approximately $107.8 million and $47.1 million, respectively, available to reduce future taxable income, if any. The net operating loss carry-forwards will expire beginning 2032 for both federal and California income tax purposes. The federal net operating losses generated on and after 2018 are carried forward indefinitely.

As of December 31, 2022, the Company had federal and state research credit carry-forwards of $1.9 and $1.8 million, respectively. Federal tax credits begin to expire in 2037. The state tax credits have no expiration date.

The Company has not performed a Section 382 study to determine whether it had experienced a change in ownership and, if so, whether the tax attributes (net operating losses or credits) were impaired. Under Section 382 of the Internal Revenue Code of 1986, as amended, the Company's ability to utilize net operating loss or other tax attributes, such as research tax credits, in any taxable year may be limited if the Company has experienced an "ownership change." Generally, a Section 382 ownership change occurs if there is a cumulative increase of more than 50 percentage points in the stock ownership of one or more stockholders or groups of stockholders who owns at least 5% of a corporation's stock within a specified testing period. Similar rules may apply under state tax laws.

The following table presents a reconciliation of the federal statutory rate of 21% to our effective tax rate for the years ended December 31 2021, and 2022:

	2021	2022
U.S. federal tax benefit at statutory rate	21.00%	21.00%
State (tax benefit) income taxes, net of federal benefit	2.78%	5.71%
Change in valuation allowance	(34.21)%	(26.78)%
Research and development credit (net of reserve)	4.86%	1.30%
Other	4.90%	(1.38)%
Effective tax rate	(0.67)%	(0.15)%

A reconciliation of the unrecognized tax benefit for the years ended December 31, 2021 and 2022 is as follows (in thousands):

	2021	2022
Unrecognized tax benefits as of the beginning of the year	$ 576	$ 717
Increase related to prior year tax provisions	40	55
Increase related to current year tax provisions	101	88
Unrecognized tax benefits as of the end of the year	$ 717	$ 860

The Company does not expect the unrecognized tax benefits to change significantly over the next 12 months. Interest and penalties are not applicable to those uncertain tax benefits as the Company has experienced taxable losses since inception and has not utilized any of the tax credits in the prior year or current year tax returns.

The Company has not been audited by the Internal Revenue Service or any state income or franchise tax agency. The federal and state income tax returns are open under the statute of limitations subject to tax examinations for the tax years ended December 31, 2019 through December 31, 2021 and December 31, 2018 through December 31, 2021, respectively. All the net operating losses and research and development credit carryforwards that may be used in future years are still subject to inquiry given the statute of limitation for these items would begin in the year of utilization.

17. Related Party Transactions

On February 3, 2022, the Company entered into an underwritten rights offering of 30,317,527 CDIs to raise maximum gross proceeds of approximately $10.5 million. One CDI represents one share of common stock. As a result of this offering, on February 15, 2022, the Company issued 16,410,646 CDIs, and on February 28, 2022 the Company issued 13,906,881 CDIs and raised $10.0 million, net of $0.6 million issuance costs. $3.9 million of the proceeds were received from Viburnum Funds and $3.7 million from Anzu Partners, LLC, both related parties of the Company. Mr. John Hoffman and Mr. Joseph Monkoswki, both Directors of the Company also participated in these rights offering by subscribing for $0.1 million of CDIs each.

During 2022, the Company made redemption payments to redeemable preferred stockholders for $1,164,000. The Company recorded $388,000 as deemed dividends in connection with the redemption premium paid to Anzu RBI during the periods ended December 31, 2022.

Potential bonuses may be paid to members of the senior leadership team selected by the Remuneration and Nomination Committee ("Committee") subject to satisfaction of various performance hurdles, including: (i) the Company achieving certain EBITDA targets for each of fiscal year 2021 to fiscal year 2022; (ii) the Company achieving a market capitalization and share price target at the end of fiscal year 2022; and (iii) the Company closing a change of control transaction at or above the target share price. Determination of the satisfaction of the fiscal year 2022 performance hurdles will be made by the Committee in the first quarter of fiscal year 2023 unless a change of control event occurs on an earlier date. The maximum bonus pool payable under the Long-Term Incentive Program (LTIP) is $10 million, with 60% of the actual bonus pool payable to the Chief Executive Officer, the Chief Technical Officer, and other members of the senior leadership team selected by the Committee. LTIP Bonuses earned as of December 31, 2022 were Nil.

18. Subsequent Events

Delisting from the Australian Securities Exchange

On February 14, 2023, the Company announced that it will call a Special Meeting to seek shareholder approval to delist from the Australian Securities Exchange (ASX). The Board will provide an option for shareholders to participate in a buy-back or sell their CDIs on market prior to delisting. Pivotal's CDIs will continue to trade on the ASX through the date of the Special Meeting and, if the delisting is approved by the securityholders, for one month after the Special Meeting. Alternatively, CDI holders can elect to convert their CDIs into shares of common stock if they wish to remain as shareholders in the unlisted company.

Buy Back and sale of securities prior to Delisting

In connection with the Delisting, the Company will be offering security holders the opportunity to participate in an off-market buy-back of up to 2,000 shares/CDIs from each eligible holder on the record date up to an aggregate cap of A$30,000. The buy-back price of the CDIs/Shares will be A$0.061, representing a 30% premium to the 20-day volume weighted average price of the CDIs on ASX prior to the date of this announcement. The proposed limited buy-back will be funded from existing cash reserves.

On February 22, 2023, the Company provided an update to its indicative timetable for the Buy-Back and Delisting and informed that the Buy Back period is expected to open on March 10th, AEST, and the Shareholder meeting to approve the Delisting is expected to take place on April 3rd, AEST, and the removal of the Company from the Official list of ASX would consequently take place on May 27th, 2023, AEST.

The Company has evaluated subsequent events through February 27, 2023, the date these financial statements were available to be issued, and determined that no additional subsequent events had occurred that would require disclosure or recognition in these financial statements.