**PROSPECTUS**

**Filed Pursuant to Rule 424(b)(3)**
**Registration No. 333-257931**

**Up to 88,982,474 Shares of Common Stock**
**(Including up to 35,476,667 Shares of Common Stock Issuable Upon Exercise of Warrants)**
**Up to 11,326,667 Warrants to Purchase Common Stock**

This prospectus relates to the issuance by us of an aggregate of up to 35,476,667 shares of our common stock, $0.0001 par value per share (the "**Common Stock**"), which consists of:

- up to 11,326,667 shares of Common Stock that are issuable upon the exercise of 11,326,667 warrants (the "**Private Placement Warrants**") originally issued in a private placement to the initial stockholder of Artius Acquisition Inc. (the "**Sponsor**") in connection with the initial public offering of Artius Acquisition Inc. ("**Artius**"), and
- up to 24,150,000 shares of Common Stock that are issuable upon the exercise of 24,150,000 warrants (the "**Public Warrants**" and, together with the Private Placement Warrants, the "**Warrants**") originally issued in the initial public offering of Artius. We will receive the proceeds from any exercise of any Warrants for cash.

This prospectus also relates to the offer and sale from time to time by the selling securityholders named in this prospectus or their permitted transferees (the"**selling securityholders**") of:

- up to 64,832,474 shares of Common Stock consisting of:
  - up to 20,000,000 shares of Common Stock issued in a private placement pursuant to subscription agreements ("**Subscription Agreements**") entered into on February 16, 2021,
  - up to 18,112,500 shares of Common Stock held by the Sponsor issued in a private placement in connection with the initial public offering of Artius and subsequent share recapitalization (including 4,500,000 shares of Common Stock subject to forfeiture if certain milestone are not achieved, as further described below),
  - up to 11,326,667 shares of Common Stock issuable upon exercise of the Private Placement Warrants,
  - up to 6,398,350 shares of Common Stock issuable upon the exercise of stock options,
  - up to 3,000,000 shares of Common Stock issued by us pursuant to that certain Backstop Agreement ("**Backstop Agreement**") entered into on June 14, 2021,
  - up to 1,300,001 shares of Common Stock issued by us pursuant to those certain Additional Subscription Agreements ("**Additional Subscription Agreements**"), each entered into on June 23, 2021, and
  - up to 4,694,956 shares of Common Stock issued pursuant to Agreement and Plan of Merger and Reorganization, dated as of February 16, 2021 (as amended by the letter agreement dated March 5, 2021), by and among the Company, Zero Carbon Merger Sub Inc. and Micromidas, Inc. and subject to that certain Investor Rights Agreement (the "**Investor Rights Agreement**"), dated June 25, 2021, between us and certain selling securityholders granting such holders registration rights with respect to such shares (including up to 2,150,784 shares of Common Stock issuable as Earnout Shares (as defined below)), and
- up to 11,326,667 Private Placement Warrants.

We will not receive any proceeds from the sale of shares of Common Stock or Warrants by the selling securityholders pursuant to this prospectus.

The selling securityholders may offer, sell or distribute all or a portion of the securities hereby registered publicly or through private transactions at prevailing market prices or at negotiated prices. We will not receive any of the proceeds from such sales of the shares of Common Stock or Warrants, except with respect to amounts received by us upon exercise of the Warrants. We will bear all costs, expenses and fees in connection with the registration of these securities, including with regard to compliance with state securities or "blue sky" laws. The selling securityholders will bear all commissions and discounts, if any, attributable to their sale of shares of Common Stock or Warrants. See the section titled "Plan of Distribution."

The Common Stock and Public Warrants are listed on The Nasdaq Capital Market ("**Nasdaq**") under the symbols "ORGN" and "ORGNW," respectively. On March 10, 2022, the last reported sales price of Common Stock was $6.35 per share and the last reported sales price of our Warrants was $1.33 per Warrant.

**Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described in the section titled "*Risk Factors*" beginning on page 7 of this prospectus, and under similar headings in any amendments or supplements to this prospectus.**



**Prospectus dated March 11 , 2022**

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You should rely only on the information contained in this prospectus, any supplement to this prospectus or in any free writing prospectus, filed with the Securities and Exchange Commission. Neither we nor the selling securityholders have authorized anyone to provide you with additional information or information different from that contained in this prospectus filed with the Securities and Exchange Commission. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. The selling securityholders are offering to sell, and seeking offers to buy, our securities only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of our securities. Our business, financial condition, results of operations and prospects may have changed since that date.

For investors outside of the United States: Neither we nor the selling securityholders, have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of our securities and the distribution of this prospectus outside the United States.

To the extent there is a conflict between the information contained in this prospectus, on the one hand, and the information contained in any document incorporated by reference filed with the Securities and Exchange Commission before the date of this prospectus, on the other hand, you should rely on the information in this prospectus. If any statement in a document incorporated by reference is inconsistent with a statement in another document incorporated by reference having a later date, the statement in the document having the later date modifies or supersedes the earlier statement.

## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-1 we filed with the Securities and Exchange Commission (the "SEC") using the "shelf" registration process. Under this shelf registration process, the selling securityholders may, from time to time, sell the securities offered by them described in this prospectus. We will not receive any proceeds from the sale by such selling securityholders of the securities offered by them described in this prospectus. This prospectus also relates to the issuance by us of the shares of Common Stock issuable upon the exercise of any Warrants. We will not receive any proceeds from the sale of shares of Common Stock underlying the Warrants pursuant to this prospectus, except with respect to amounts received by us upon the exercise of the Warrants for cash.

Neither we nor the selling securityholders have authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus or any applicable prospectus supplement or any free writing prospectuses prepared by or on behalf of us or to which we have referred you. Neither we nor the selling securityholders take responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. Neither we nor the selling securityholders will make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted.

We may also provide a prospectus supplement or post-effective amendment to the registration statement to add information to, or update or change information contained in, this prospectus. You should read both this prospectus and any applicable prospectus supplement or post-effective amendment to the registration statement together with the additional information to which we refer you in the sections of this prospectus titled "Where You Can Find More Information."

On June 25, 2021, Legacy Origin, Artius and Merger Sub (as such terms are defined below) consummated the transactions contemplated by the Merger Agreement (as defined below), following the approval at a special meeting of the shareholders of Artius held on June 23, 2021. Pursuant to the terms of the Merger Agreement, a Business Combination (as defined below) of Legacy Origin and Artius was effected through the merger of Merger Sub with and into Legacy Origin, with Legacy Origin surviving as a wholly owned subsidiary of Artius. Prior to the Closing Date (as defined below), Artius (i) changed its jurisdiction of incorporation from Cayman Islands to the State of Delaware by deregistering as an exempted company in the Cayman Islands and domesticating and continuing as a corporation incorporated under the laws of the State of Delaware, and(ii) changed its name from Artius Acquisition Inc. to Origin Materials, Inc.

Unless the context indicates otherwise, references in this prospectus to the "Company," "Origin," "we," "us," "our" and similar terms refer to Origin Materials, Inc. (f/k/a Artius Acquisition Inc.) and its consolidated subsidiaries (including Legacy Origin). References to "Artius" refer to the predecessor company prior to the consummation of the Business Combination.

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Some of the statements contained in this prospectus constitute forward-looking statements within the meaning of the federal securities laws. Forward-looking statements relate to expectations, beliefs, projections, future plans and strategies, anticipated events or trends and similar expressions concerning matters that are not historical facts. These forward-looking statements include statements about our future financial and operating results; benefits of the Business Combination; statements about the plans, strategies and objectives of management for our future operations; statements regarding future performance; and other statements regarding the Business Combination. In some cases, you can identify these forward-looking statements by the use of terminology such as “outlook,” “believes,” “expects,” “potential,” “continues,” “may,” “will,” “should,” “could,” “seeks,” “approximately,” “predicts,” “intends,” “plans,” “estimates,” “anticipates” or the negative version of these words or other comparable words or phrases.

The forward-looking statements contained in this prospectus reflect our current views and are subject to numerous known and unknown risks, uncertainties, assumptions and changes in circumstances that may cause its actual results to differ significantly from those expressed in any forward-looking statement. The following factors, among others, could cause actual results and future events to differ materially from those set forth or contemplated in the forward-looking statements:

- our ability to recognize the anticipated benefits of the Business Combination, which may be affected by, among other things, competition and the ability of the combined business to grow and manage growth profitably;
- costs related to the Business Combination;
- our financial and business performance;
- changes in our strategy, future operations, financial position, estimated revenues and losses, projected costs, prospects and plans;
- changes in personnel and availability of qualified personnel;
- the effects of the ongoing coronavirus (COVID-19) pandemic or other infectious diseases, health epidemics, pandemics and natural disasters on Origin’s business;
- the amount and timing of future sales;
- our ability to secure additional project financing and government incentives;
- our ability to complete construction of its plants in the expected timeframe and in a cost-effective manner;
- our ability to procure necessary capital equipment and to produce its products in large commercial quantities;
- any decline in the value of carbon credits;
- increases or fluctuations in raw material costs;
- our ability to compete in the markets we serve;
- the impact of government laws and regulations and liabilities thereunder;
- the ability to maintain the listing of Common Stock on the Nasdaq; and
- the increasingly competitive environment in which we operate.

In addition, statements that “Origin believes” or “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to Origin as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and such statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

While forward-looking statements reflect our good faith beliefs, they are not guarantees of future performance. Except to the extent required by applicable law, we are under no obligation (and expressly disclaim any such obligation) to update or revise their forward-looking statements whether as a result of new information, future events, or otherwise. For a further discussion of these and other factors that could cause our future results, performance or transactions to differ significantly from those expressed in any forward-looking statement, please see the section titled "*Risk Factors*." You should not place undue reliance on any forward-looking statements, which are based only on information currently available to Origin (or to third parties making the forward-looking statements).

## FREQUENTLY USED TERMS

"**Artius**" means Artius Acquisition Inc. (which was re-named "Origin Materials, Inc." in connection with the Domestication).

"**Artius IPO**" means Artius's initial public offering, consummated on July 16, 2020.

"**Business Combination**" means the transactions contemplated by the Merger Agreement, including, among other things, the Merger.

"**Closing**" means the closing of the Business Combination.

"**Closing Date**" means June 25, 2021, the date on which the Closing occurred.

"**DGCL**" means the General Corporation Law of the State of Delaware.

"**Domestication**" means the continuation of Artius by way of domestication of Artius into a Delaware corporation with the ordinary shares of Artius becoming shares of common stock of the Delaware corporation under the applicable provisions of the Cayman Islands Companies Act (As Revised) and the DGCL.

"**Legacy Origin**" means Micromidas, Inc., a Delaware corporation doing business as Origin Materials, and, unless the context otherwise requires, its consolidated subsidiaries.

"**Merger**" means the merger of Merger Sub with and into Legacy Origin, with Legacy Origin continuing as the Surviving Corporation.

"**Merger Agreement**" means the Agreement and Plan of Merger and Reorganization, dated as of

February 16, 2021 (as amended by the letter agreement dated March 5, 2021, as it may be further amended from time to time), by and among Artius, Merger Sub and Legacy Origin.

"**Merger Sub**" means Zero Carbon Merger Sub Inc., a Delaware corporation and a direct, wholly owned subsidiary of Artius.

"**PIPE**" means that certain private placement in the aggregate amount of $200.0 million, consummated immediately prior to the consummation of the Business Combination, pursuant to those certain Subscription Agreements with Artius, pursuant to which the subscribers purchased 20,000,000 shares of Common Stock at a purchase price of $10.00 per share.

"**PIPE Shares**" means an aggregate of 20,000,000 shares of Common Stock issued to the subscribers in the PIPE. "**Private Placement Warrants**" means the 11,326,667 warrants purchased by the Sponsor in connection with the Artius IPO in a private placement transaction occurring simultaneously with the closing of the Artius IPO.

"**Public Warrants**" means the 24,150,000 warrants included as a component of the Artius units sold in the Artius IPO, each of which is exercisable, at an exercise price of $11.50, for one share of Common Stock, in accordance with its terms.

"**Sponsor**" means the Artius Acquisition Partners LLC.

"**Sponsor Shares**" means the 18,112,500 shares of Common Stock held by the Sponsor following a private placement in connection with the initial public offering of Artius and subsequent share recapitalization. 4,500,000 Sponsor Shares shall be subject to forfeiture in three equal installments unless our Common Stock reaches certain trading price thresholds within certain specified time periods (10 consecutive trading day-closing volume weighted average price targets of $15, $20, and $25 of our Common Stock within 3, 4 and 5 years after the closing of the Business Combination, respectively).

"**Surviving Corporation**" means Legacy Origin following the consummation of the Merger.

"**Warrants**" means the Private Placement Warrants and the Public Warrants.

## PROSPECTUS SUMMARY

*This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our securities, you should carefully read this entire prospectus, including our consolidated financial statements and the related notes thereto and the information set forth in the sections titled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations."*

### Overview

Origin is a carbon negative materials company with a mission to enable the world's transition to sustainable materials by replacing petroleum-based materials with decarbonized materials in a wide range of end products, such as food and beverage packaging, clothing, textiles, plastics, car parts, carpeting, tires, adhesives, soil amendments and more. We believe that our platform technology can help make the world's transition to "net zero" possible and support the fulfillment of greenhouse gas reduction pledges made by countries as part of the United Nations Paris Agreement as well as corporations that are committed to reducing emissions in their supply chains.

Our technology converts sustainable feedstocks such as sustainably harvested wood, agricultural waste, wood waste and even corrugated cardboard into materials and products that are currently made from fossil feedstocks such as petroleum and natural gas. These sustainable feedstocks are not used in food production, which differentiates our technology from other sustainable materials companies that use feedstocks such as vegetable oils or high fructose corn syrup and other sugars. While we have has succeeded in producing small amounts of our products in the pilot plant for customer trials and testing purposes, we have has not yet commenced large-scale production.

Since inception, we have has had a history of net losses due to our primary focus on research and development, plant construction, capital expenditures and early-stage commercial activities. For the years ended December 31, 2021 and 2020, we had net income (losses) of $42.1 million and ($30.3 million), respectively.As of December 31, 2021, we had an accumulated deficit of $56.8 million. Based on our estimates and projections, which are subject to significant risks and uncertainties, we do not expect to generate revenue until 2023.

Our principal executive offices are located at 930 Riverside Parkway, Suite 10, West Sacramento, California 95605.

### Background

We were previously known as Artius Acquisition Inc. On June 25, 2021, Artius consummated the Business Combination with Legacy Origin pursuant to the Merger Agreement. In connection with the closing of the Business Combination, Artius changed its name to Origin Materials, Inc. Legacy Origin was deemed to be the accounting acquirer in the Merger. While Artius was the legal acquirer in the Merger, because Legacy Origin was deemed the accounting acquirer, the historical consolidated financial statements of Legacy Origin became the historical consolidated financial statements of the combined company, upon the consummation of the Merger.

Immediately prior to the effective time of the Merger (the "Effective Time"), each share of Legacy Origin preferred stock and common stock that was then issued and outstanding was cancelled and converted into a right to receive the common stock of Artius after the Business Combination ("Combined Company Common Stock") at the conversion ratios set forth in the Merger Agreement, all vested stock options held by former employees of Legacy Origin were deemed exercised on a net exercise basis, all unvested stock options held by former employees of Legacy Origin were cancelled, all warrants to purchase Legacy Origin capital stock were deemed exercised on a net exercise basis, and stock options held by current employees were assumed and converted into rights to receive the Common Stock, as set forth in the Merger Agreement.

On June 24, 2021, as previously disclosed and as contemplated by the Merger Agreement, Artius filed a notice of deregistration with the Cayman Islands Registrar of Companies, together with the necessary accompanying documents, and filed a certificate of incorporation and a certificate of corporate domestication with the Secretary of State of the State of Delaware, under which Artius was domesticated and continues as a Delaware corporation, changing its name to "Origin Materials, Inc." (the "Domestication").

As a result of and upon the effective time of the Domestication, among other things:

- each then issued and outstanding Class A ordinary share, par value $0.0001 per share, of Artius (the "Artius Class A Ordinary Shares") converted automatically by operation of law, on a one-for-one basis, into a share of Class A common stock, par value $0.0001 per share, of Artius (the "Artius Class A Common Stock");
- each then issued and outstanding redeemable warrant of Artius automatically became a redeemable warrant to acquire shares of Artius Class A Common Stock (no changes were made to the terms of any issued and outstanding public warrants as a result of the Domestication);
- each then issued and outstanding unit of Artius that had not been previously separated into the underlying Artius Class A Ordinary Share and underlying warrant upon the request of the holder thereof, automatically entitled the holder thereof to one share of Artius Class A Common Stock and one-third of one redeemable warrant to acquire one share of Artius Class A Common Stock;
- each then issued and outstanding Class B ordinary share, par value $0.0001 per share, of Artius converted automatically by operation of law, on a one-for-one basis without giving effect to any rights of adjustment or other anti-dilution protections, into a share of Class B common stock, par value $0.0001 per share, of Artius (the "Artius Class B Common Stock"); and
- the issued and outstanding warrants of Artius issued in a private placement automatically became warrants to acquire shares of Artius Class A Common Stock.

Upon the closing of the Business Combination, the outstanding shares of Artius Class A Common Stock and Artius Class B Common Stock became shares of Common Stock of Origin, and the warrants to acquire shares of Artius Class A Common Stock became warrants to acquire Common Stock. In addition, at the Effective Time, each issued and outstanding share of common stock of Merger Sub was converted into and become one validly issued, fully paid and non-assessable share of common stock of the Surviving Corporation.

On the Closing Date, a number of purchasers (each, a "Subscriber") purchased from Origin an aggregate of 20,000,000 shares of Common Stock, for a purchase price of $10.00 per share and an aggregate purchase price of $200.0 million, pursuant to separate subscription agreements (each, a "Subscription Agreement") entered into effective as of February 16, 2021. Pursuant to the Subscription Agreements, we gave certain registration rights to the Subscribers with respect to the PIPE Shares. The sale of the PIPE Shares was consummated concurrently with the Closing of the Business Combination.

On the Closing Date, certain funds managed by affiliates of Apollo Capital Management, L.P. (collectively, the "Apollo Entities") purchased 3,000,000 shares of Common Stock (the "Backstop Shares"), for a purchase price of $10.00 per share and an aggregate purchase price of $30.0 million, pursuant to a purchase agreement dated June 14, 2021 (the "Backstop Agreement"). Pursuant to the Backstop Agreement, we agreed to provide certain registration rights to the Apollo Entities with respect to the Backstop Shares. In connection with and subject to satisfaction of the conditions contained in the Backstop Agreement, the Apollo Entities were paid a backstop premium of $900,000.

On the Closing Date, certain purchasers (each, an "Additional Subscriber") purchased from Origin an aggregate of 1,300,001 shares of Common Stock (the "Additional Subscription Shares"), for a purchase price of $10.00 per share and an aggregate purchase price of $13.0 million, pursuant to separate purchase agreements dated June 23, 2021 (each, an "Additional Subscription Agreement"). Pursuant to the Additional Subscription Agreements, we agreed to provide certain registration rights to the Additional Subscribers with respect to the Additional Subscription Shares.

As additional consideration for the Merger, we will issue to the holders of our Common Stock and vested stock options up to 25,000,000 earnout shares (the "Earnout Shares") in three equal installments upon the occurrence of certain conditions (10 consecutive trading day-closing volume weighted average price targets of $15, $20, and $25 of our Common Stock) within specified periods of time (3, 4 and 5 years, respectively) after the closing of the Business Combination. An aggregate of 2,150,784 of such Earnout Shares are held by our affiliates and are being registered for resale pursuant to this prospectus.

Our Common Stock and Warrants are currently listed on The Nasdaq Capital Market under the symbols “ORGN” and “ORGNW,” respectively.

The rights of holders of the Common Stock and Warrants are governed by our amended and restated certificate of incorporation, our bylaws and the Delaware General Corporation Law (“DGCL”), and, in the case of the Warrants, the Warrant Agreement, dated July 13, 2020 (the “Warrant Agreement”), between Artius and the Continental Stock Transfer & Trust Company, as the warrant agent (the “Warrant Agent”). See the sections entitled “Description of Our Securities” and “Certain Relationships and Related Party Transactions.”

**Summary of Risk Factors**

Below is a summary of material factors that make an investment in our securities speculative or risky. Importantly, this summary does not address all of the risks and uncertainties that we face. Additional discussion of the risks and uncertainties summarized in this risk factor summary, as well as other risks and uncertainties that we face, can be found under the section titled “Risk Factors” in this prospectus and our other filings with the U.S. Securities and Exchange Commission (the "SEC"). The below summary is qualified in its entirety by that more complete discussion of such risks and uncertainties. You should consider carefully the risks and uncertainties described under the section titled “Risk Factors” as part of your evaluation of an investment in our securities:

- We are an early stage company with a history of losses and our future profitability is uncertain, and our financial projections may differ materially from actual results.
- Our business plan assumes we can secure substantial additional project financing and government incentives, which may be unavailable on favorable terms, if at all.
- We have identified material weaknesses in our internal control over financial reporting and may identify additional material weaknesses in the future or fail to maintain effective internal control over financial reporting, which may result in material misstatements of our consolidated financial statements or result in failure to meet our periodic reporting obligations.
- Construction of our plants may not be completed in the expected timeframe or in a cost-effective manner. Any delays in the construction of our plants could severely impact our business, financial condition, results of operations and prospects.
- We plan to rely on our Origin 1 and Origin 2 plants to meet customer demand until 2027.
- We have not produced our products in large commercial quantities and may not manage growth effectively.
- Our offtake agreements with customers include liquidated damages, advance repayment and/or termination provisions that may be triggered if we fail to timely complete plant construction or commence our commercial operations.
- Our industry is highly competitive, and we may lose market share to producers of products that can be substituted for our products, which may have an adverse effect on our results of operations and financial condition.
- Increases or fluctuations in the costs of our raw materials may affect our cost structure.
- Compliance with extensive environmental, health and safety laws could require material expenditures, changes in our operations or site remediation.
- Our business relies on proprietary information and other intellectual property, and our failure to protect our intellectual property rights could harm our competitive advantages with respect to the use, manufacturing, sale or other commercialization of our processes, technologies and products, which may have an adverse effect on our results of operations and financial condition.

- 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 (including indemnification of third parties or costly licensing arrangements, if licenses are available at all) and limit our ability to use certain key technologies in the future or require development of non-infringing products or technologies, which may cause us to incur significant unexpected costs, prevent us from commercializing our products and otherwise harm our business.
- We rely on trade secrets to protect our technology, and our failure to maintain trade secret protection could limit our ability to compete.
- Our management has limited experience in operating a public company.

**Corporate Information**

Our principal executive offices are located at 930 Riverside Parkway, Suite 10, West Sacramento, California 95605 and our telephone number is (916) 231-9329. Our corporate website address is www.originmaterials.com. Information contained on or accessible through our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

Origin and Origin's subsidiaries own or have rights to trademarks, trade names and service marks that they use in connection with the operation of their business. In addition, their names, logos and website names and addresses are their trademarks or service marks. Other trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners. Solely for convenience, in some cases, the trademarks, trade names and service marks referred to in this prospectus are listed without the applicable ®, ™ and SM symbols, but they will assert, to the fullest extent under applicable law, their rights to these trademarks, trade names and service marks.

## The Offering

**Issuance of Common Stock**

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| Shares of Common Stock offered by us | 35,476,667 shares of Common Stock, consisting of (i) 11,326,667 shares of Common Stock that are issuable upon the exercise of 11,326,667 Private Placement Warrants and (ii) 24,150,000 shares of Common Stock that are issuable upon the exercise of 24,150,000 Public Warrants. |
| Shares of Common Stock outstanding prior to exercise of all Warrants | 141,248,470 shares (as of June 25, 2021). |
| Shares of Common Stock outstanding assuming exercise of all Warrants | 176,725,137 shares (based on total shares outstanding as of June 25, 2021). |
| Exercise price of Warrants | $11.50 per share, subject to adjustment as described herein. |
| Use of proceeds | We will receive up to an aggregate of approximately $408.0 million from the exercise of the Warrants, assuming the exercise in full of all of the Warrants for cash. We expect to use the net proceeds from the exercise of the Warrants for general corporate purposes. See the section titled "*Use of Proceeds*." |

**Resale of Common Stock and Warrants**

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| Shares of Common Stock offered by the selling securityholders | We are registering the resale by the selling securityholders named in this prospectus, or their permitted transferees, and aggregate of 64,832,474 shares of Common Stock, consisting of:<br>• up to 20,000,000 PIPE Shares;<br>• up to 18,112,500 Sponsor Shares (including 4,500,000 shares of Common Stock subject to forfeiture if certain milestone are not achieved);<br>• up to 11,326,667 shares of Common Stock issuable upon the exercise of the Private Placement Warrants;<br>• up to 6,398,350 shares of Common Stock issuable upon the exercise of stock options;<br>• up to 3,000,000 shares of Common Stock issued pursuant to the Backstop Agreement;<br>• up to 1,300,301 shares of Common Stock issued pursuant to the Additional Subscription Agreements; and<br>• up to 4,694,956 shares of Common Stock pursuant to the Investor Rights Agreement (including up to 2,150,784 shares of Common Stock issuable as Earnout Shares).<br>In addition, we are registering 24,150,000 shares of Common Stock issuable upon exercise of the Public Warrants that were previously registered. |
| Warrants offered by the selling securityholders | Up to 11,326,667 of Private Placement Warrants. |

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| Redemption | The Public Warrants are redeemable in certain circumstances. See the section titled "*Description of Our Securities—Warrants*." |
| Lock-Up Agreements | Certain of our securityholders are subject to certain restrictions on transfer until the termination of applicable lock-up periods. See the section titled "*Certain Relationships and Related Party Transactions—Lock-Up Agreements*." |
| Terms of the offering | The selling securityholders will determine when and how they will dispose of the securities registered for resale under this prospectus. |
| Use of proceeds | We will not receive any proceeds from the sale of shares of Common Stock or Warrants by the selling securityholders. |
| Risk factors | Before investing in our securities, you should carefully read and consider the information set forth in "*Risk Factors*" beginning on page 7. |
| Nasdaq ticker symbols | "ORGN" and "ORGNW" |

For additional information concerning the offering, see "*Plan of Distribution*" beginning on page 112.

# RISK FACTORS

The following risk factors apply to our business and operations. These risk factors are not exhaustive, and investors are encouraged to perform their own investigation with respect to our business, financial condition and prospects. We may face additional risks and uncertainties that are not presently known to us, or that we currently deem immaterial, which may also impair our business. The following discussion should be read in conjunction with the financial statements and notes to such financial statements included elsewhere in this prospectus and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this prospectus.

## Risks Related to Our Business

### Risks Related to Our Financial Condition and Status as an Early Stage Company

***We are an early stage company with a history of losses and our future profitability is uncertain.***

We have had a history of net losses due to our primary focus on research and development, plant construction, capital expenditures and early-stage commercial activities. For the years ended December 31, 2020 and 2019, we had net losses of $30.3 million and $0.5 million, respectively. For the year ended December 31, 2021, we had a net income of $42.1 million. As of December 31, 2021, we had an accumulated deficit of $56.8 million.

We expect that our net losses will continue for the foreseeable future. Based on our estimates and projections, which are subject to significant risks and uncertainties, we do not expect to generate revenue until 2023 and do not expect to reach commercial scale production until 2025. Even if we are able to commercialize our products and generate revenue from product sales, we may not become profitable for many years, if at all.

Our potential profitability is dependent upon many factors, including our ability to complete construction of current and future plants, maintain an adequate supply chain, anticipate and react to demand for our products, manufacture our products on a commercial scale, secure additional customer commitments, and otherwise execute our growth plan. We expect the rate at which we will incur losses to be significantly higher in future periods as we:

- expand our commercial production capabilities and incur construction costs associated with building our plants;
- increase our expenditures associated with our supply chain, including sourcing primary feedstock for our products;
- increase our spending on research and development for new products;
- begin full scale commercial production of our products;
- increase our sales and marketing activities and develop our distribution infrastructure; and
- increase our general and administrative functions to support our growing operations and to operate as a public company.

Because we will incur the costs and expenses from these efforts before receiving meaningful revenue, our losses in future periods could be significant. We may find that these efforts are more expensive than we currently estimates or that these efforts may not result in revenues, which would further increase our losses.

***We may not manage growth effectively.***

Our failure to manage growth effectively could harm our business, results of operations and financial condition. 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. 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 hire, train, retain and manage the necessary personnel or to identify, manage and exploit potential strategic relationships and market opportunities.

***Our business plan assumes we can secure substantial additional project financing and government incentives, which may be unavailable on favorable terms, if at all.***

We will need substantial additional project financing and government incentives in order to execute our growth strategy and expand our manufacturing capability. We have not yet secured such project financing and government incentives, and they may not be available on commercially reasonable terms, if at all. In particular, our ability to obtain financing for the construction of future plants may depend in part on our ability to first enter into customer agreements sufficient to demonstrate sufficient demand to justify the construction of such plants. If we are unable to obtain such financing and government incentives, or secure sufficient customer agreements, on commercially reasonable terms, or at all, we will not be able to execute our growth strategy.

To the extent that we raise additional capital in through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of those securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing and preferred 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 acquisitions or capital expenditures or declaring dividends. Debt financing could also have significant negative consequences for our business, results of operations and financial condition, including, among others, increasing our vulnerability to adverse economic and industry conditions, limiting our ability to obtain additional financing, requiring the dedication of a substantial portion of our cash flow from operations to service our indebtedness, thereby reducing the amount of our cash flow available for other purposes, limiting our flexibility in planning for, or reacting to, changes in our business, and placing us at a possible competitive disadvantage compared to less leveraged competitors or competitors that may have better access to capital resources.

If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or products, or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings or other arrangements when needed, we may be required to delay, limit, reduce or terminate our commercialization, research and development efforts or grant rights to third parties to market and/or develop products that we would otherwise prefer to market and develop ourselves.

If we seek government grants, incentives or subsidies, their terms may be limiting or restrict certain of our planned operations, thereby requiring us to alter our operating plans and materially impacting our financial projections and projected results of operations. Government grants may also be terminated, modified or recovered under certain conditions without our consent.

***We previously identified a material weakness in our internal control over financial reporting that we have concluded has been remediated, though we may identify additional material weaknesses in the future or fail to maintain effective internal control over financial reporting, which may result in material misstatements of our consolidated financial statements or cause us to fail to meet our periodic reporting obligations.***

In connection with the audit of our consolidated financial statements for the fiscal years ended December 31, 2019 and December 31, 2020, during the course of preparing for the Business Combination, and during the second quarter 2021 and third quarter 2021 interim reviews, we identified material weaknesses in our internal controls 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 its annual or interim financial statements will not be prevented or detected on a timely basis. Specifically, we did not have in place an effective control environment with formal processes and procedures to allow for a detailed review of accounting transactions that would identify errors in a timely manner. In addition, due to our size, we did not have proper segregation of duties and had insufficient accounting and finance personnel with an appropriate level of technical accounting knowledge in the application of U.S. GAAP commensurate with our complexity and financial accounting and reporting requirements to design, implement and operate precise business processes and internal control activities over financial reporting to provide reasonable assurance of preventing or detecting material misstatements. We previously restated our financial statements as of and for the fiscal years ended December 31, 2020 and 2019.

We have begun implementing and are continuing to implement measures designed to improve our internal control over financial reporting to remediate these material weaknesses, including retention of an accounting consultant to assist in areas of complex accounting and financial reporting, converting and upgrading our accounting system and hiring additional IT personnel. We have also hired a staff accountant and a corporate controller and expect to hire additional accounting personnel. These actions, being implemented through the fourth quarter of 2021 related to the design effectiveness of internal controls over financial reporting allow us to conclude that the material weakness has been remediated.

If we are unable to successfully remediate any future material weaknesses in our internal control over financial reporting, or if we identify any additional material weaknesses, the accuracy and timing of our financial reporting may be adversely affected, we may be unable to maintain compliance with securities law requirements regarding timely filing of periodic reports in addition to applicable Nasdaq listing requirements, investors may lose confidence in our financial reporting and our stock price may decline as a result. We also could become subject to investigations by Nasdaq, the SEC or other regulatory authorities.

As a public company, we are required, pursuant to Section 404 of the Sarbanes-Oxley Act, to furnish a report by management on, among other things, the effectiveness of its internal control over financial reporting for future annual reports on Form 10-K to be filed with the SEC. This assessment will need to include disclosure of any material weaknesses identified by management in our internal control over financial reporting. Our independent registered public accounting firm will also be required to audit the effectiveness of our internal control over financial reporting in future annual reports on Form 10-K to be filed with the SEC. We will be required to disclose changes made in our internal control over financial reporting on a quarterly basis. Failure to comply with the Sarbanes-Oxley Act could potentially subject us to sanctions or investigations by the SEC, the applicable stock exchange or other regulatory authorities, which would require additional financial and management resources. We have begun the process of compiling the system and processing documentation necessary to perform the evaluation needed to comply with Section 404 in the future, but we may not be able to complete its evaluation, testing and any required remediation in a timely fashion.

***Changes in tax laws or tax rulings could materially affect our financial position, results of operations, and cash flows.***

The tax regimes we are subject to or operate under, including income and non-income taxes, are unsettled and may be subject to significant change. Changes in tax laws, regulations, or rulings, or changes in interpretations of existing laws and regulations, could materially affect our financial position and results of operations. For example, the 2017 Tax Cuts and Jobs Act (the “Tax Act”) made broad and complex changes to the U.S. tax code, including changes to U.S. federal tax rates, additional limitations on the deductibility of interest, both positive and negative changes to the utilization of future net operating loss (“NOL”) carryforwards, allowing for the expensing of certain capital expenditures, and putting into effect the migration from a “worldwide” system of taxation to a more territorial system. Future guidance from the IRS with respect to the Tax Act may affect us, and certain aspects of the Tax Act could be repealed or modified in future legislation. The Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”) has already modified certain provisions of the Tax Act. In addition, it is uncertain if and to what extent various states will conform to the Tax Act, the CARES Act or any newly enacted federal tax legislation. The issuance of additional regulatory or accounting guidance related to the Tax Act could materially affect our tax obligations and effective tax rate in the period issued. In addition, many countries in Europe and a number of other countries and organizations, have recently proposed or recommended changes to existing tax laws or have enacted new laws that could significantly increase our tax obligations in the countries where we do business or require it to change the manner in which we operate our business.

The Organization for Economic Cooperation and Development has been working on a Base Erosion and Profit Shifting Project, and issued a report in 2015, an interim report in 2018, and is expected to continue to issue guidelines and proposals that may change various aspects of the existing framework under which our tax obligations are determined in many of the countries in which we do business. Similarly, the European Commission and several countries have issued proposals that would change various aspects of the current tax framework under which we are taxed. These proposals include changes to the existing framework to calculate income tax, as well as proposals to change or impose new types of non-income taxes, including taxes based on a percentage of revenue. For example, several countries have proposed or enacted taxes applicable to digital services, which could apply to our business.

As we expand the scale of our international business activities, these types of changes to the taxation of our activities could increase our worldwide effective tax rate, increase the amount of taxes imposed on our business, and harm our financial position. Such changes may also apply retroactively to our historical operations and result in taxes greater than the amounts estimated and recorded in our financial statements.

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

We are subject to taxation in Canada and other jurisdictions around the world with increasingly complex tax laws, the application of which can be uncertain. The amount of taxes we pay in these jurisdictions could increase substantially as a result of changes in the applicable tax principles, including increased tax rates, new tax laws or revised interpretations of existing tax laws and precedents, which could have an adverse impact on our liquidity and results of operations. In addition, the authorities in several jurisdictions could review our tax returns and impose additional tax, interest and penalties, which could have an impact on us and on our results of operations. We have previously participated in government programs with the Canadian federal government and Canadian provincial governments that provide investment tax credits based upon qualifying research and development expenditures. If Canadian taxation authorities successfully challenge such expenses or the correctness of such income tax credits claimed, our historical operating results could be adversely affected. As a public company, we will no longer be eligible for refundable tax credits under the Canadian federal Scientific Research and Experimental Development Program (“SR&ED”) credits. However, we are still eligible for non-refundable SR&ED credits under this program, which are eligible to reduce future income taxes payable.

***Our future effective tax rates in Canada could be subject to volatility or adversely affected by a number of factors.***

Our future effective tax rates could be subject to volatility or adversely affected by a number of factors, including:

- 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, regulations or interpretations thereof; or
- future earnings being lower than anticipated in countries where we have has lower statutory tax rates and higher than anticipated earnings in countries where we have has higher statutory tax rates.

We may conduct activities in Canada and other jurisdictions through our subsidiaries pursuant to transfer pricing arrangements and may in the future conduct operations in other jurisdictions pursuant to similar arrangements. If two or more affiliated companies are located in different countries, the tax laws or regulations of each country generally will require that transfer prices be the same as those between unrelated companies dealing at arms’ length. While we intend to operate in compliance with applicable transfer pricing laws, our transfer pricing procedures are not binding on applicable tax authorities. If tax authorities in any of these countries were to successfully challenge our transfer prices as not reflecting arm’s length transactions, they could require us to adjust our transfer prices and thereby reallocate our income to reflect these revised transfer prices, which could result in a higher tax liability to us.

***Our ability to use net operating loss carryforwards and other tax attributes may be limited in connection with the Business Combination or other ownership changes.***

We have has incurred losses during our history. To the extent that we continue to generate taxable losses, unused losses will carry forward to offset future taxable income, if any, until such unused losses expire, if at all. As of December 31, 2021, we had U.S. federal net operating loss ("NOL") carryforwards of approximately $97.8 million.

Under the Tax Act, as modified by the CARES Act, U.S. federal NOL carryforwards generated in taxable periods beginning after December 31, 2017, may be carried forward indefinitely, but the deductibility of such net operating loss carryforwards in taxable years beginning after December 31, 2020, is limited to 80% of taxable income. It is uncertain if and to what extent various states will conform to the Tax Act or the CARES Act. In addition, our NOL carryforwards are subject to review and possible adjustment by the IRS, and state tax authorities. Under Sections 382 and 383 of the Code, our federal net operating loss carryforwards and other tax attributes may become subject to an annual limitation in the event of certain cumulative changes in the ownership of our stock. An “ownership change” pursuant to Section 382 of the Code generally occurs if one or more stockholders or groups of stockholders who own at least 5% of a company’s stock increase their ownership (as measured by value) by more than 50 percentage points over their lowest ownership percentage within a rolling three-year period. Our ability to utilize our NOL carryforwards and other tax attributes to offset future taxable income or tax liabilities may be limited as a result of ownership changes, including potential changes in connection with the Business Combination or other transactions. Similar rules may apply under state tax laws. We have not yet determined the amount of the cumulative change in our ownership resulting from the Business Combination or other transactions, or any resulting limitations on our ability to utilize our net operating loss carryforwards and other tax attributes. If we earn taxable income, such limitations could result in increased future income tax liability to us and our future cash flows could be adversely affected. We have recorded a valuation allowance related to our NOL carryforwards and other deferred tax assets due to the uncertainty of the ultimate realization of the future benefits of those assets.

***Our outstanding secured and unsecured indebtedness, ability to incur additional debt and the provisions in the agreements governing our current debt, and certain other agreements, could harm our business, financial condition, results of operations and prospects.***

Our debt service and similar obligations could have important consequences to us for the foreseeable future, including that our ability to obtain additional financing for capital expenditures, working capital or other general corporate purposes may be impaired and we may be or become substantially more leveraged than some of our competitors, which could place us at a relative competitive disadvantage and make us more vulnerable to changes in market conditions and governmental regulations.

We are required to maintain compliance with certain financial and other covenants under our debt and similar agreements. There are and will be operating and financial restrictions and covenants in certain of our debt and similar agreements, as well as certain other agreements to which we are or may become a party. These limit, among other things, our ability to incur certain additional debt, create certain liens or other encumbrances and sell assets. These covenants could limit our ability to engage in activities that may be in our best long-term interests. Our failure to comply with certain covenants in these agreements could result in an event of default under the various debt and similar agreements, allowing lenders to accelerate the maturity for the debt under these agreements and to foreclose upon any collateral securing the debt. Under such circumstances, we might not have sufficient funds or other resources to satisfy all of our obligations.

**Risks Related to Our Operations and Industry**

***Construction of our plants may not be completed in the expected timeframe or in a cost-effective manner. Any delays in the construction of our plants could severely impact our business, financial condition, results of operations and prospects.***

Our projected financial performance and results of operations, including our ability to achieve commercial scale production, depend on our ability to construct several commercial scale plants. While we expect the Origin 1 plant to be operational by the end of 2022, we do not expect the Origin 2 plant to be operational until 2025, and our expansion to additional commercial scale plants is not planned to commence until 2027. In particular, except for Origin 2, subject to finalization of economic incentives, we have not selected a site for any of our future planned plants, and may have difficulty finding sites with appropriate infrastructure and access to raw materials. With respect to these future plants, we also do not have agreements with engineering, procurement or construction firms. Consequently, we cannot predict on what terms such firms may agree to design and construct our future plants. If we are unable to construct these plants within the planned timeframes, in a cost-effective manner or at all due to a variety of factors, including, but not limited to, a failure to acquire or lease land on which to build our plants, a stoppage of construction as a result of the COVID-19 pandemic, unexpected construction problems, permitting and other regulatory issues, severe weather, inflationary pressures, labor disputes, and issues with subcontractors or vendors, including payment disputes, which we have previously experienced, our business, financial condition, results of operations and prospects could be severely impacted.

The construction and commission of any new project is dependent on a number of contingencies some of which are beyond our control. There is a risk that significant unanticipated costs or delays could arise due to, among other things, errors or omissions, unanticipated or concealed project site conditions, including subsurface conditions and changes to such conditions, unforeseen technical issues or increases in plant and equipment costs, insufficiency of water supply and other utility infrastructure, or inadequate contractual arrangements. Should these or other significant unanticipated costs arise, this could have a material adverse impact on our business, financial performance and operations. No assurance can be given that construction will be completed on time or at all, or as to whether we will have sufficient funds available to complete construction.

***We plan to rely on our Origin 1 and Origin 2 plants to meet customer demand until at least 2027.***

Our operating plan assumes that we will rely on Origin 1 and Origin 2 to meet customer demand until 2027 and that Origin 2 will supply most of our products from the time Origin 2 is expected to become operational in 2025 until at least 2027. Adverse changes or developments affecting these facilities, and in particular Origin 2, could impair our ability to produce our products. Any shutdown or period of reduced production at these facilities, and in particular Origin 2, which may be caused by regulatory noncompliance or other issues, as well as other factors beyond our control, such as severe weather conditions, natural disaster, fire, power interruption, work stoppage, disease outbreaks or pandemics (such as COVID-19), equipment failure or delay in supply delivery, would, among other things, significantly disrupt our ability to generate revenue, execute our expansion plans, and meet our contractual obligations and customer demands. In addition, our plant equipment may be costly to replace or repair, and our equipment supply chains may be disrupted in connection with pandemics (such as COVID-19), trade wars or other factors. If any material amount of our equipment is damaged, we could be unable to predict when, if at all, we could replace or repair such equipment or find suitable alternative equipment, which could adversely affect our business, financial condition, results of operations and prospects. Performance guarantees may not be sufficient to cover damages or losses, or the guarantors under such guarantees may not have the ability to pay. Any insurance coverage we have may not be sufficient to cover all of our potential losses and may not continue to be available to us on acceptable terms, or at all.

***We may be delayed in procuring or unable to procure necessary capital equipment.***

While the equipment we use to produce our products is currently widely available, we rely on outside companies to continue to manufacture the equipment necessary to produce our products. If our suppliers of capital equipment are unable or unwilling to provide us with necessary capital equipment to manufacture our products or if we experience significant delays in obtaining the necessary manufacturing equipment, our business, results of operations and financial condition could be adversely affected. In addition, the construction of our plants may require a substantial portion of certain materials and supplies relative to the overall global supply of such materials and supplies. If we are unable to secure an adequate supply of such materials and supplies on commercially reasonable terms, or at all, the construction of our plants may be delayed or terminated.

***We have not produced our products in large commercial quantities.***

We have no experience in producing large quantities of our products. While we have succeeded in producing small amounts of our products in our pilot plant for customer trials and testing purposes, we have not yet commenced large-scale production. There are significant technological and logistical challenges associated with producing, marketing, selling and distributing products in the specialty chemicals 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. While we believe that we understand the engineering and process characteristics necessary to successfully build and operate our additional planned facilities and to scale up to larger facilities, we may not be able to cost effectively manage production at a scale or quality consistent with customer demand in a timely or economical manner.

***Any decline in the value of carbon credits associated with our products could harm our results of operations, cash flow and financial condition.***

The value of our products may be dependent on the value of carbon credits, programs relating to low-carbon materials and products standards and other similar regulatory regimes or the implicit value of decarbonized materials. The value of these credits fluctuates based on market and regulatory forces outside of our control. There is a risk that the supply of low-carbon alternative materials and products outstrips demand, resulting in the value of carbon credits declining. Any such declines could mean that the economic benefits from our customers' efforts to decarbonize their operations might not be realized. Any decline in the value of carbon credits associated with our products could harm our results of operations, cash flow and financial condition.

***We expect to rely on a limited number of customers for a significant portion of our near-term revenue.***

We currently have offtake and capacity reservation agreements with a limited number of customers, from which we expect to generate most of our revenues in the near future. The loss of one or more of our significant customers, a substantial reduction in their orders, their failure to exercise customer options, their unwillingness to extend contractual deadlines if we are unable to meet production requirements, their inability to perform under their contracts or a significant deterioration in their financial condition could harm our business, results of operations and financial condition. If we fail to perform under the terms of these agreements, the customers could seek to terminate these agreements and/or pursue damages against us, including liquidated damages in certain instances, which could harm our business.

***Our offtake agreements with customers include termination, liquidated damages and/or advance repayment provisions that may be triggered if we fail to timely complete plant construction or commence our commercial operations.***

Our offtake agreements with our customers allow the customers to terminate the agreements if specified construction and product delivery requirements are not satisfied. For example, under two of these agreements, if Origin 1 had not commenced commercial operation by December 31, 2021 or we had not delivered specified product volume from Origin 1 by September 30, 2022, then, in each case, the customer may terminate the agreement and any outstanding secured promissory notes resulting from advance payments made to us will become due immediately. The outstanding obligations under those promissory notes, together with accrued interest, totaled an aggregate of $10.9 million as of December 31, 2021. These agreements also require us to pay liquidated damages up to an aggregate of $0.9 million if Origin 1 had not commenced commercial operation by December 31, 2020 or we had not delivered specified product volume from Origin 1 by September 30, 2021. In September 2020, the counterparties to these agreements agreed to waive compliance with the milestones and their right to liquidated damages until June 30, 2021, in order to facilitate the negotiation of amendments to the agreements, including the milestone achievement dates. In June 2021, one of the counterparties agreed to further extend this deadline through September 30, 2021. And in November 2021, this counterparty agreed to further extend the deadline to June 30, 2022. In December 2021, the other counterparty agreed to extend the deadline to March 31, 2022.

A third offtake agreement is terminable by the customer if commercial operation or delivery of product from Origin 1 has not occurred by December 31, 2022. Discussions to amend these agreements and extend these milestone dates are ongoing but we cannot guarantee that the discussions will result in any such extension. We do not currently expect Origin 1 to be operational until 2022 or to produce product until 2023. Accordingly, if these milestone dates are not extended, we may be required to pay these liquidated damages and repay the amounts outstanding under the foregoing promissory notes and our offtake agreements may be subject to termination by our customers. If any of our offtake agreements are terminated or we are required to pay liquidated damages or repay advances under our offtake agreements, our business, results of operations and financial condition may be harmed.

***Our products may not achieve market success.***

We currently have a small number of binding customer commitments for commercial quantities of our products. Some prospective customers are currently evaluating and testing our products prior to making large-scale purchase decisions. The successful commercialization of our products is dependent on our customers' ability to commercialize the end-products that utilize our products, which may gain market acceptance slowly, if at all. Furthermore, the technology for our products is new, and the performance and ultimate carbon footprint of these products is uncertain. The market for carbon-negative products is nascent and subject to significant risks and uncertainties.

Market acceptance of our products will depend on numerous factors, many of which are outside of our control, including, among others:

- public acceptance of such products;
- our ability to produce products of consistent quality that offer functionality comparable or superior to existing or new products;
- our ability to produce products fit for their intended purpose;
- our ability to produce new products or customizations of existing products to match changes in public demand;
- our ability to obtain necessary regulatory approvals for our products;
- the speed at which potential customers qualify our products for use in their products;
- the pricing of our products compared to competitive and alternative products, including petroleum- based plastics;
- the strategic reaction of companies that market competitive products;
- our reliance on third parties who support or control distribution channels; and
- general market conditions, including fluctuating demand for our products.

***Our industry is highly competitive, and we may lose market share to producers of products that can be substituted for our products, which may have an adverse effect on our results of operations and financial condition.***

The specialty chemicals industry is highly competitive, and we face significant competition from both large established producers of fossil-based materials, recycled fossil-based materials and a variety of current and future producers of low-carbon, biodegradable, or renewable resource-based materials. Many of our current competitors have longer operating histories, greater name recognition, larger customer bases and significantly greater financial, sales and marketing, manufacturing, distribution, technical and other resources than us. Our competitors may be able to adapt more quickly to new or emerging technologies, changes in customer requirements and changes in laws and regulations. In addition, current and potential competitors have established or may establish financial or strategic relationships among themselves or with existing or potential customers or other third parties. Accordingly, new competitors or alliances among competitors could emerge and rapidly acquire significant market share.

Our competitors may also improve their relative competitive position by successfully introducing new products or products that can be substituted for our products, improving their manufacturing processes, or expanding their capacity or manufacturing capabilities. Further, if our competitors are able to compete at advantageous cost positions, this could make it increasingly difficult for us to compete in markets for less-differentiated applications. If we are unable to keep pace with our competitors' product and manufacturing process innovations or cost position, it could harm our results of operations, financial condition and cash flows.

***Our operating results may fluctuate significantly as a result of a variety of factors, many of which are outside of our control.***

We are subject to, among other things, the following factors that may negatively affect our operating results:

- the announcement or introduction of new products by our competitors;
- our ability to upgrade and develop our systems and infrastructure to accommodate growth;
- our ability to attract and retain key personnel in a timely and cost-effective manner;
- our ability to attract new customer and retain existing customers;
- technical difficulties;
- the amount and timing of operating costs and capital expenditures relating to the expansion of our business, operations and infrastructure;
- our ability to identify and enter into relationships with appropriate and qualified third-party providers of necessary testing and manufacturing services;
- regulation by federal, state or local governments; and
- general economic conditions, as well as economic conditions specific to the plastics and fuels industries, and other industries related to compostable or biodegradable substitutes for
- non-biodegradable plastics, as well as changes to commodity prices to which prices in some of our contracts are indexed.

As a result of our limited operating history and the nature of the markets in which we compete, it is difficult for us to forecast our revenues or earnings accurately. We have based our anticipated future expense levels largely on our investment plans and estimates of future events, although certain of our expense levels will, to a large extent, become fixed. As a strategic response to changes in the competitive environment, we may from time to time make certain decisions concerning expenditures, pricing, service or marketing that could harm our business, results of operations and financial condition. Due to the foregoing factors, our revenues and operating results are difficult to forecast.

***Our commercial success may be influenced by the price of petroleum relative to the price of non-fossil feedstocks.***

Our commercial success may be influenced by the cost of our products relative to petroleum-based products. The cost of petroleum-based products is in part based on the price of petroleum, which is subject to historically fluctuating prices. Our production plans assume the use of timber and forest residues as feedstock, which historically have experienced low volatility. If the price of bio-based feedstocks increases and/or the price of petroleum decreases, our products may be less competitive relative to petroleum-based products. A material decrease in the cost of conventional petroleum-based products may require a reduction in the prices of our products for them to remain attractive in the marketplace and may negatively impact our revenues.

***Increases or fluctuations in the costs of our raw materials may affect our cost structure.***

The price of raw materials may be impacted by external factors, including uncertainties associated with war, terrorist attacks, weather and natural disasters, health epidemics or pandemics (such as COVID-19), civil unrest, the effects of climate change or political instability, plant or production disruptions, strikes or other labor unrest, inflationary pressures, breakdown or degradation of transportation infrastructure used in the delivery of raw materials or changes in laws or regulations in any of the countries in which we have has significant suppliers.

We currently use and plan to use local timber and forest residues as our primary raw materials. The cost of these raw materials is generally influenced by supply and demand factors, and our operating plans include assumptions that the timber and forest residues we intend to use as feedstock will be available at prices similar to historic levels with low volatility. As we continue to expand our production, we will increase our demand for timber and forest residues which may alter the anticipated stability in the costs of our raw materials and potentially drive an increase in the cost of such raw materials.

Our results of operations will be directly affected by the cost of raw materials. The cost of raw materials comprises a significant amount of our total cost of goods sold and, as a result, movements in the cost of raw materials, and in the cost of other inputs, will impact our profitability. Because a significant portion of our cost of goods sold is represented by these raw materials, our gross profit margins could be adversely affected by changes in the cost of these raw materials if we are unable to pass the increases on to our customers.

If our raw material prices experience volatility, there can be no assurance that we can continue to recover raw material costs or retain customers in the future. As a result of our pricing actions, customers may become more likely to consider competitors' products, some of which may be available at a lower cost. Significant loss of customers could adversely impact our results of operations, financial condition and cash flows.

***The failure of our raw material suppliers to perform their obligations under supply agreements, or our inability to replace or renew these agreements when they expire, could increase our cost for these materials, interrupt production or otherwise adversely affect our results of operations.***

Our manufacturing processes use local timber and forest residues as our primary raw materials. However, we may be unable to secure agreements with local suppliers for the necessary amount of raw materials in certain circumstances. If we are required to obtain alternate sources for raw materials because a supplier is unwilling or unable to execute or perform under raw material supply agreements, if a supplier terminates its agreements with us, if a supplier is unable to meet increased demand as our commercial scale production expands, if we are unable to renew its contracts or if we are unable to obtain new long-term supply agreements to meet changing demand, we may not be able to obtain these raw materials in sufficient quantities, on economic terms, or in a timely manner, and we may not be able to enter into long-term supply agreements on terms as favorable to us, if at all. A lack of availability of raw materials could limit our production capabilities and prevent us from fulfilling customer orders, and therefore harm our results of operations and financial condition.

***Maintenance, expansion and refurbishment of our facilities, the construction of new facilities and the development and implementation of new manufacturing processes involve significant risks.***

Our facilities may require regular or periodic maintenance, upgrading, expansion, refurbishment or improvement. Any unexpected operational or mechanical failure, including failure associated with breakdowns and forced outages, could reduce our facilities' production capacity below expected levels, which would reduce our production capabilities and ultimately our revenues. Unanticipated capital expenditures associated with maintaining, upgrading, expanding, repairing, refurbishing, or improving our facilities may also reduce our profitability. Our facilities may also be subject to unanticipated damage as a result of natural disasters, terrorist attacks or other events.

If we make any major modifications to our facilities, such modifications likely would result in substantial additional capital expenditures and could prolong the time necessary to bring the facility online. We may also choose to refurbish or upgrade our facilities based on our assessment that such activity will provide adequate financial returns. However, such activities require time for development and capital expenditures before commencement of commercial operations, and key assumptions underpinning a decision to make such an investment may prove incorrect, including assumptions regarding construction costs and timing, which could harm our business, financial condition, results of operations and cash flows.

The construction of new manufacturing facilities entails a number of risks and assumptions, including the ability to begin production within the cost and timeframe estimated and to attract a sufficient number of skilled workers to meet the needs of the new facility. Additionally, our assessment of the projected benefits associated with the construction of new manufacturing facilities is subject to a number of estimates and assumptions, which in turn are subject to significant economic, competitive and other uncertainties that are beyond our control. If we experience delays or increased costs, our estimates and assumptions are incorrect, or other unforeseen events occur, our business, ability to supply customers, financial condition, results of operations and cash flows could be adversely impacted.

Finally, we may not be successful or efficient in developing or implementing new production processes. Innovation in production processes involves significant expense and carries inherent risks, including difficulties in designing and developing new process technologies, development and production timing delays, lower than anticipated manufacturing yields, and product defects. Disruptions in the production process can also result from errors, defects in materials, delays in obtaining or revising operating permits and licenses, returns of product from customers, interruption in our supply of materials or resources, and disruptions at our facilities due to accidents, maintenance issues, or unsafe working conditions, all of which could affect the timing of production ramps and yields. Production issues can lead to increased costs and may affect our ability to meet product demand, which could adversely impact our business and results from operations.

***We may not be successful in finding future strategic partners for continuing development of additional offtake and feedstock opportunities or tolling and downstream conversion of our products.***

We may seek to develop additional strategic partnerships to increase feedstock supply and offtake amounts due to manufacturing constraints or capital costs required to develop our products. We may not be successful in our efforts to establish such strategic partnerships or other alternative arrangements for our products or technology because our research and development pipeline may be insufficient, our products may be deemed to be at too early of a stage of development for collaborative effort or third parties may not view our products as having the requisite potential to demonstrate commercial success.

If we are unable to reach agreements with suitable collaborators on a timely basis, on acceptable terms, or at all, we may have to curtail the development of our products, delay commercialization, reduce the scope of any sales or marketing activities or increase expenditures and undertake development or commercialization activities at our own expense. If we elect to fund development or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms or at all. If we fail to enter into collaborations and do not have sufficient funds or expertise to undertake the necessary development and commercialization activities, we may not be able to develop additional products and our business, financial condition, results of operations and prospects may be materially and adversely affected.

***We may rely heavily on future collaborative and supply chain partners.***

We have has entered into, and may enter into, strategic partnerships to develop and commercialize our current and future research and development programs with other companies to accomplish one or more of the following:

- obtain capital, equipment and facilities;
- obtain funding for research and development programs, product development programs and commercialization activities;
- obtain expertise in relevant markets;
- obtain access to raw materials;
- obtain sales and marketing services or support;
- obtain conversion services and other supply chain support; and/or
- obtain access to intellectual property and ensure freedom to operate.

We may not be successful in establishing or maintaining suitable partnerships, and we may not be able to negotiate collaboration agreements having terms satisfactory to us, or at all. Failure to make or maintain these arrangements or a delay or failure in a collaborative partner’s performance under any such arrangements could harm our business and financial condition.

***We may become subject to product liability claims that may not be covered by insurance and could require us to pay substantial sums.***

We are subject to an inherent risk of, and adverse publicity associated with, product liability and other liability claims, whether or not such claims are valid. In addition, our customers are subject to product liability claims, and could seek contribution from us. A successful product liability claim or series of claims against us could adversely impact the specialty chemicals industry, our reputation or our financial condition or results of operations. Product liability insurance may not be available to us on commercially acceptable terms, or at all. Even if such insurance is available, product liability or other claims may exceed our insurance coverage limits. A successful product liability claim that exceeds our insurance coverage limits, for which we are not otherwise indemnified, could require us to pay substantial sums and could harm our business, financial condition or results of operations.

***Climate change may impact the availability of our facilities and, in addition, we may incur substantial costs to comply with climate change legislation and related regulatory initiatives.***

Changing weather patterns and the increase in frequency of severe storms such as hurricanes and tornadoes could cause disruptions or the complete loss of our facilities or delay the construction of future facilities. In addition, climate change concerns, and changes in the regulation of such concerns, including greenhouse gas emissions, could also subject us to additional costs and restrictions, including increased energy and raw materials costs which could negatively impact our financial condition and results of operations. Climate change may also negatively impact the availability of our feedstock. The effects of climate change can not only adversely impact our operations, but also that of its suppliers and customers, and can lead to increased regulations and changes in consumer preferences, which could adversely affect our business, results of operations and financial condition.

**Risks Related to Government Regulation**

***Compliance with extensive environmental, health and safety laws could require material expenditures, changes in our operations or site remediation.***

We use hazardous materials in our production process, and our operations also produce hazardous waste. The manufacture, transportation and sale of our products can present potentially significant health and safety concerns and are also under increased public and governmental scrutiny. Our products are also used in a variety of applications that have specific regulatory requirements such as those relating to products that have contact with food or are used for medical applications.

Accordingly, our operations are subject to environmental, health and safety laws and regulations at the international, national, state and local level in multiple jurisdictions. These laws and regulations govern, among other things, air emissions, wastewater discharges, solid and hazardous waste management and disposal, occupational health and safety, including dust and noise control, site remediation programs and chemical use and management. Many of these laws and regulations have become more stringent over time and the costs of compliance with these requirements may increase, including costs associated with any necessary capital investments. In addition, our plants will require operating permits that are subject to renewal and, in some circumstances, revocation. The necessary permits may not be issued or continue in effect, and renewals of any issued permits may contain significant new requirements or restrictions. The nature of the specialty chemicals industry exposes us to risks of liability due to the use, production, management, storage, transportation and sale of materials that are heavily regulated or hazardous and can cause contamination or personal injury or damage if released into the environment.

Compliance with environmental laws and regulations generally increases the costs of transportation and storage of raw materials and finished products, as well as the costs of storage and disposal of wastes. We may incur substantial costs, including fines, damages, criminal or civil sanctions and remediation costs, or experience interruptions in our operations for violations arising under environmental laws, regulations or permit requirements. In addition, the market for bioplastics is heavily influenced by applicable federal, state and local government laws, regulations and policies as well as public perception. Changes in these laws, regulations and policies or how these laws, regulations and policies are implemented and enforced could cause the demand for bioplastics to decline and deter investment in the research and development of bioplastics. Concerns associated with bioplastics, including land usage, national security interests, deforestation, food crop usage and other environmental concerns, continue to receive legislative, industry and public attention. This attention could result in future legislation, regulation and/or administrative action that could adversely affect our business.

Furthermore, various petrochemical products, including plastics, have faced increased public scrutiny due to negative coverage of plastic waste in the environment, which has resulted in local, state, federal and foreign governments proposing and in some cases approving, restrictions or bans on the manufacture, consumption and disposal of certain petrochemical products. Although our products are intended to replace petrochemical products, increased regulation on the use of such products or other products in the specialty chemicals industry, whatever their scope or form, could increase our costs of production, impact overall consumption of our products or result in misdirected negative publicity. Any inability to address these requirements and any regulatory or policy changes could harm our business, financial condition and results of operations.

***We are subject to U.S. and foreign anti-corruption and anti-money laundering laws and regulations. We could face criminal liability and other serious consequences for violations, which would harm our business.***

We are subject to the U.S. Foreign Corrupt Practices Act of 1977, as amended, the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA PATRIOT Act and possibly other anti-bribery and anti-money laundering laws in countries in which we conduct activities. Anti-corruption laws are interpreted broadly and prohibit companies and their employees, agents, contractors and other collaborators from authorizing, promising, offering or providing, directly or indirectly, improper payments or anything else of value to recipients in the public or private sector. We can also be held liable for the corrupt or other illegal activities of our employees, agents, contractors and other collaborators, even if we do not explicitly authorize or have actual knowledge of such activities. Any violations of the laws and regulations described above may result in substantial civil and criminal fines and penalties, imprisonment, the loss of export or import privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm and other consequences.

***Our operating plan may require us to source feedstock and supplies internationally, and foreign currency exchange rate fluctuations and changes to international trade agreements, tariffs, import and excise duties, taxes or other governmental rules and regulations could adversely affect our business, financial condition, results of operations and prospects.***

Our expansion model is global and we will need to source feedstock and supplies from suppliers around the world. In particular, our manufacturing process uses local timber and forest residues as our primary raw materials, which must be sourced locally. For the Origin 1 plant, this means we will need to source feedstock, as well as other supplies, from Canadian suppliers or arrange for transport of such feedstock and supplies into Canada. The U.S. federal government or other governmental bodies may propose changes to international trade agreements, tariffs, taxes and other government rules and regulations. If foreign currency exchange rates fluctuate or any restrictions or significant increases in costs or tariffs are imposed related to feedstock and supplies sourced to our plants as a result of amendments to existing trade agreements or otherwise, this may increase our supply and shipping costs, resulting in potential decreased margins. We may expand our operations to countries with unstable governments that are subject to instability, corruption, changes in rules and regulations and other potential uncertainties that could harm our business, financial condition, results of operations and prospects. The extent to which our margins could decrease in response to any future tariffs is uncertain. We continue to evaluate the impact of trade agreements, as well as foreign currency exchange rate fluctuations and other recent changes in foreign trade policy on our supply chain, costs, sales and profitability. In addition, COVID-19 has resulted in increased travel restrictions and the extended shutdown of certain businesses throughout the world. The impact of COVID-19 on our business is uncertain at this time and will depend on future developments; however, prolonged closures in Canada, Europe, Asia and elsewhere may disrupt the operations of certain suppliers of feedstock and other supplies, which could, in turn, negatively impact our business, financial condition, results of operations and prospects.

**Risks Related to Our Intellectual Property**

***Our business relies on proprietary information and other intellectual property, and our failure to protect our intellectual property rights could harm our competitive advantages with respect to the use, manufacturing, sale or***

***other commercialization of our processes, technologies and products, which may have an adverse effect on our results of operations and financial condition.***

We intend to make significant capital investments into the research and development of proprietary information and other intellectual property as we develop, improve and scale our processes, technologies and products, and failure to fund and make these investments, or underperformance of the technology funded by these investments, could severely impact our business, financial condition, results of operations and prospects.

If we fail to adequately protect our intellectual property rights, such failure could result in the reduction or loss of our competitive advantage. We may be unable to prevent third parties from using our proprietary information and other intellectual property without our authorization or from independently developing proprietary information and other intellectual property that is similar to ours, particularly in those countries where the laws do not protect our proprietary rights to the same degree as in the U.S or those countries where we do not have intellectual property rights protection. The use of our proprietary information and other intellectual property by others could reduce or eliminate competitive advantages that we have developed, potentially causing us to lose sales or actual or potential customers, or otherwise harm our business. If it becomes necessary for us to litigate to protect these rights, any proceedings could be burdensome and costly, could result in counterclaims challenging our intellectual property (including validity or enforceability) or accusing us of infringement, and we may not prevail.

Our patent applications and issued patents may be practiced by third parties without our knowledge. Our competitors may also attempt to design around our patents or copy or otherwise obtain and use our proprietary information and other intellectual property. Moreover, our competitors may already hold or have applied for patents in the U.S. or abroad that, if enforced, could possibly prevail over our patent rights or otherwise limit our ability to manufacture, sell or otherwise commercialize one or more of our products in the U.S. or abroad. With respect to our pending patent applications, we may not be successful in securing issued patents, or the claims of such patents may be narrowed, any of which may limit our ability to protect inventions that these applications were intended to cover, which could harm our ability to prevent others from exploiting our technologies and commercializing products similar to our products. In addition, the expiration of a patent can result in increased competition with consequent erosion of profit margins.

The applicable governmental authorities may not approve our pending service mark and trademark applications. A failure to obtain trademark registrations in the U.S. and in other countries could limit our ability to obtain and retain our trademarks in those jurisdictions. Moreover, third parties may seek to oppose our applications or otherwise challenge the resulting registrations. In the event that our trademarks are not approved or are successfully challenged by third parties, we could be forced to rebrand our products, which could result in loss of brand recognition and could require us to devote significant resources to rebranding and advertising and marketing new brands. The failure of our patents, trademarks, trade secrets, or confidentiality agreements to protect our proprietary information and other intellectual property, including our processes, apparatuses, technology, trade secrets, trade names and proprietary manufacturing expertise, methods and compounds, could have a material adverse effect on our business and results of operations.

Some of our intellectual property has been or will be discovered, conceived or developed through research funded by the Canadian government and thus may be subject to federal regulations providing for certain rights for the Canadian government or imposing certain obligations on us, such as limitations on exploiting such intellectual property outside of Canada. Compliance with such regulations may limit our exclusive rights and ability to commercialize our products and technology outside of Canada.

***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 (including indemnification of third parties or costly licensing arrangements, if licenses are available at all) and limit our ability to use certain key technologies in the future or require development of non-infringing products or technologies, which may cause us to incur significant unexpected costs, prevent us from commercializing our products and otherwise harm our business.***

The various bioindustrial markets in which we plan to operate are subject to frequent and extensive litigation regarding patents, trade secrets and other intellectual property rights. Many of our competitors have a substantial amount of intellectual property. We cannot guarantee that our processes and products do not and will not infringe issued patents (whether present or future) or other intellectual property rights belonging to others.

From time to time, we oppose third-party patents that we consider overbroad or otherwise invalid in order to maintain the necessary freedom to operate fully in our various business lines without the risk of being sued for patent infringement. If, however, the oppositions are unsuccessful, we could be liable for infringement or have to take other remedial or curative actions to continue our manufacturing and sales activities with respect to one or more products.

We may also be subject to legal proceedings and claims in the ordinary course of our business, including claims of alleged infringement or misappropriation of the patents, trademarks, trade secrets and other intellectual property rights of third parties by us or our licensees in connection with their use of our products. Intellectual property litigation is expensive and time-consuming, regardless of the merits of any claim, and could divert our management's attention from operating our business.

If we were to discover that our processes, technologies or products infringe or misappropriate the valid intellectual property rights of others, we might need to obtain licenses from these parties or substantially re-engineer our processes, technologies or products in order to avoid infringement. We may not be able to obtain the necessary licenses on acceptable terms, or at all, or be able to re-engineer our processes, technologies or products successfully. Moreover, if we or our licensees are sued for infringement or misappropriation and lose, we could be required to pay substantial damages, indemnify our licensees and/or be enjoined from using or selling the infringing processes, technologies or products. If we incur significant costs to litigate infringement or misappropriation claims or to obtain licenses, or if our inability to obtain required licenses prevents us from using or selling our processes, technologies or products, it could have a material adverse effect on our business and results of operations.

***We rely on trade secrets to protect our technology, and our failure to maintain trade secret protection could limit our ability to compete.***

We rely on trade secrets to protect some of our technology and proprietary information, especially where we believe patent protection is not appropriate or obtainable. However, trade secrets can be difficult to protect. The misappropriation or other compromise of our trade secrets may lead to a reduction or loss of our competitive advantages resulting from such trade secrets. Further, litigating a claim that a third party had misappropriated our trade secrets would be expensive and time consuming, and the outcome would be unpredictable. Moreover, if our competitors independently develop similar knowledge, methods and know-how, it will be difficult for us to enforce our rights and our business could be harmed.

Our confidentiality agreements could be breached or may not provide meaningful protection for our trade secrets or proprietary manufacturing expertise. Adequate remedies may not be available in the event of an unauthorized use or disclosure of our trade secrets and manufacturing expertise. Violations by others of our confidentiality agreements and the loss of employees who have specialized knowledge and expertise could harm our competitive position resulting from the exclusive nature of such knowledge and expertise and cause our sales and operating results to decline as a result of increased competition. In addition, others may obtain knowledge of our trade secrets through independent development or other access by legal means.

**Other Risks Related to Our Business**

***Our management has limited experience in operating a public company.***

Our executive officers have limited experience in the management of a publicly traded company subject to significant regulatory oversight and reporting obligations under federal securities laws. Our management team may not successfully or effectively manage our transition to a public company following the Business Combination. 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 our management and growth. We may not have adequate personnel with the appropriate level of knowledge, experience and training in the accounting policies, practices or internal controls over financial reporting required of public companies in the United States. It is possible that will be required to expand its employee base and hire additional employees to support our operations as a public company, which will increase its operating costs in future periods.

***We are dependent on management and key personnel, and our business would suffer if we fail to retain our key personnel and attract additional highly skilled employees.***

Our success depends on the specialized skills of our management team and key operating personnel. This may present particular challenges as we operate in a highly specialized industry sector, which may make replacement of our management team and key operating personnel difficult. A loss of our managers or key employees, or their failure to satisfactorily perform their responsibilities, could have an adverse effect on our business, financial condition, results of operations and prospects.

Our future success will depend on our ability to identify, hire, develop, motivate and retain highly qualified personnel for all areas of our organization, particularly research and development, recycling technology, operations and sales. Trained and experienced personnel are in high demand and may be in short supply. Many of the companies that we compete with for experienced employees have greater resources than us and may be able to offer more attractive terms of employment. In addition, we invest significant time and expense in training employees, which increases their value to competitors that may seek to recruit them. We may not be able to attract, develop and maintain the skilled workforce necessary to operate our business, and labor expenses may increase as a result of a shortage in the supply of qualified personnel, which will negatively impact our business, financial condition, results of operations and prospects.

***We are subject to stringent and changing obligations related to data privacy and security. Our actual or perceived failure to comply with such obligations could lead to regulatory investigations or actions; litigation; fines and penalties; disruptions of our business operations; reputational harm; loss of revenue or profits; loss of customers or sales; and other adverse business consequences.***

In the ordinary course of business, we collect, receive, store, process, generate, use, transfer, disclose, make accessible, protect, secure, dispose of, transmit, and share (commonly known as processing) personal data and other sensitive information, including proprietary and confidential business data, trade secrets, and intellectual property. Our data processing activities subject us to various data privacy and security obligations, which can include laws, regulations, guidance, industry standards, external and internal privacy and security policies, contracts, and other obligations that govern the processing of personal data by us and on our behalf.

In the United States, federal, state, and local governments have enacted numerous data privacy and security laws, including data breach notification laws, personal data privacy laws, and consumer protection laws. For example, the California Consumer Privacy Act of 2018 (“CCPA”) imposes obligations on businesses to which it applies, such as providing specific disclosures in privacy notices and affording California residents certain rights related to their personal data. In addition, it is anticipated that the California Privacy Rights Act of 2020 (“CPRA”), effective January 1, 2023, will expand the CCPA, including by establishing a new California Privacy Protection Agency to implement and enforce the CPRA. Other states have also enacted data privacy laws, including Virginia and Colorado. In addition, data privacy and security laws have been proposed at the federal, state, and local levels in recent years, which could further complicate compliance efforts.

Outside the United States, an increasing number of laws, regulations, and industry standards apply to data privacy and security. For example, the European Union’s General Data Protection Regulation (“EU GDPR”) and the United Kingdom’s GDPR (“UK GDPR”) impose strict requirements for processing the personal data of individuals located in the European Economic Area (“EEA”) and the UK, respectively. For example, under the EU GDPR, government regulators may impose temporary or definitive bans on data processing, as well as fines of up to 20 million euros or 4% of annual global revenue, whichever is greater. Additionally, in Canada, the Personal Information Protection and Electronic Documents Act (“PIPEDA”) and various related provincial laws, as well as Canada’s Anti-Spam Legislation (“CASL”), may apply to our operations. We also target customers in Asia, and may be subject to new and emerging data privacy regimes in Asia, such as China’s Personal Information Protection Law, Japan’s Act on the Protection of Personal Information, and Singapore’s Personal Data Protection Act.

In addition, certain jurisdictions have enacted data localization laws and cross-border personal data transfer laws, which could make it more difficult to transfer information across jurisdictions (such as transferring or receiving personal data that originates in Europe or other jurisdictions). Existing mechanisms that may facilitate cross-border personal data transfers may change or be invalidated.

Obligations related to data privacy and security are quickly changing in an increasingly stringent fashion, creating some uncertainty as to the effective future legal framework. Additionally, these obligations may be subject to differing applications and interpretations, which may be inconsistent or in conflict among jurisdictions. Preparing for and complying with these obligations may require us to devote significant resources (including, without limitation, financial and time-related resources). These obligations may necessitate changes to our information technologies, systems, and practices and to those of any third parties that process personal data on our behalf.

Although we endeavor to comply with all applicable data privacy and security obligations, we may at times fail (or be perceived to have failed) to do so. Moreover, despite our efforts, our personnel or third parties upon whom we rely may fail to comply with such obligations, which could negatively impact our business operations and compliance posture. For example, any failure by a third-party processor to comply with applicable law, regulations, or contractual obligations could result in adverse effects, including inability to or interruptions in our ability to operate our business and proceedings against us by governmental entities or others.

If we fail, or are perceived to have failed, to address or comply with data privacy and security obligations, we could face significant consequences. These consequences may include, but are not limited to, government enforcement actions (e.g., investigations, fines, penalties, audits, inspections, and similar); litigation (including class-related claims); additional reporting requirements and/or oversight; bans on processing personal data; and orders to destroy or not use personal data.

Any of these events could have a material adverse effect on our reputation, business, or financial condition, including but not limited to: loss of customers; interruptions or stoppages in our business operations; inability to process personal data or to operate in certain jurisdictions; limited ability to develop or commercialize our products; expenditure of time and resources to defend any claim or inquiry; adverse publicity; or revision or restructuring of our operations.

***If our information technology systems or data, or those of third parties upon which we rely, are or were compromised, we could experience adverse consequences resulting from such compromise, including but not limited to regulatory investigations or actions; litigation; fines and penalties; disruptions of our business operations; reputational harm; loss of revenue or profits; loss of customers; and other adverse consequences.***

In the ordinary course of our business, we may process proprietary, confidential, and sensitive data, including personal data, intellectual property, and trade secrets (collectively, sensitive information). We may rely upon third-party service providers and technologies to operate critical business systems to process sensitive information in a variety of contexts, including, without limitation, third-party providers of cloud-based infrastructure, encryption and authentication technology, employee email, content delivery to customers, manufacturing processing, orders and invoices, payments, customer and supplier communications, inventory management and other functions. We also depend on these systems to respond to customer inquiries, support our overall internal control process, maintain property, plant and equipment records, and pay amounts due to vendors and other creditors. Our ability to monitor these third parties' information security practices is limited, and these third parties may not have adequate information security measures in place. We may share or receive sensitive information with or from third parties.

Cyberattacks, malicious internet-based activity, and online and offline fraud are prevalent and continue to increase. These threats are becoming increasingly difficult to detect. These threats come from a variety of sources, including traditional computer “hackers,” threat actors, personnel (such as through theft or misuse), sophisticated nation-states, and nation-state-supported actors.

We and the third parties upon which we rely may be subject to a variety of evolving threats, including but not limited to social-engineering attacks (including through phishing attacks), malicious code (such as viruses and worms), malware (including as a result of advanced persistent threat intrusions), denial-of-service attacks (such as credential stuffing), personnel misconduct or error, ransomware attacks, supply-chain attacks, software bugs, server malfunctions, software or hardware failures, loss of data or other information technology assets, adware, telecommunications failures, earthquakes, fires, floods, and other similar threats.

Ransomware attacks, including those perpetrated by organized criminal threat actors, nation-states, and nation-state-supported actors, are becoming increasingly prevalent and severe – particularly for companies like ours that are engaged in manufacturing – and can lead to significant interruptions in our operations, loss of data and income, reputational harm, and diversion of funds. Extortion payments may alleviate the negative impact of a ransomware attack, but we may be unwilling or unable to make such payments due to, for example, applicable laws or regulations prohibiting such payments. The COVID-19 pandemic and our remote workforce poses increased risks to our information technology systems and sensitive information, as more of our employees work from home, utilizing network connections outside our premises. Any of the previously identified or similar threats could cause a security incident or other interruption. A security incident or other interruption could result in unauthorized, unlawful, or accidental acquisition, modification, destruction, loss, alteration, encryption, disclosure of, or access to our sensitive information. A security incident or other interruption could disrupt our ability (and that of third parties upon whom we rely) to provide our products.

We may expend significant resources or modify our business activities in an effort to protect against security incidents. Certain data privacy and security obligations may require us to implement and maintain specific security measures, industry-standard or reasonable security measures to protect our information technology systems and sensitive information.

While we have implemented security measures designed to protect against security incidents, there can be no assurance that these measures will be effective. We may be unable in the future to detect vulnerabilities in our information technology systems because such threats and techniques change frequently, are often sophisticated in nature, and may not be detected until after a security incident has occurred.

Despite our efforts to identify and remediate vulnerabilities, if any, in our information technology systems, our efforts may not be successful. Further, we may experience delays in developing and deploying remedial measures designed to address any such identified vulnerabilities. Applicable data privacy and security obligations may require us to notify relevant stakeholders of security incidents. Such disclosures are costly, and the disclosures or the failure to comply with such requirements could lead to adverse consequences.

If we (or a third party upon whom we rely) experience a security incident or are perceived to have experienced a security incident, we may experience adverse consequences. These consequences may include: government enforcement actions (for example, investigations, fines, penalties, audits, and inspections); additional reporting requirements and/or oversight; restrictions on processing data (including personal data); litigation (including class claims); indemnification obligations; negative publicity; reputational harm; monetary fund diversions; interruptions in our operations (including availability of data); financial loss; and other similar harms. Security incidents and attendant consequences may deter negatively impact our ability to grow and operate our business. Our contracts may not contain limitations of liability, and even where they do, there can be no assurance that limitations of liability in our contracts are sufficient to protect us from liabilities, damages, or claims related to our data privacy and security obligations. We cannot be sure that our insurance coverage will be adequate or sufficient to protect us from or to mitigate liabilities arising out of our data privacy and security practices, that such coverage will continue to be available on commercially reasonable terms or at all, or that such coverage will pay future claims.

**Risks Related to Ownership of Our Shares**

***Our Certificate of Incorporation provides, subject to limited exceptions, that the Delaware Court of Chancery is the sole and exclusive forum for certain stockholder litigation matters, which could limit our stockholders' ability to obtain a chosen judicial forum for disputes with us or our directors, officers, employees or stockholders.***

Our Certificate of Incorporation requires, to the fullest extent permitted by law, that derivative actions brought in our name, actions against directors, officers and employees for breach of fiduciary duty and other similar actions may be brought in the Delaware Court of Chancery or, if that court lacks subject matter jurisdiction, another federal or state court situated in the State of Delaware. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and consented to the forum provisions in our

Certificate of Incorporation. In addition, our Certificate of Incorporation provides that the federal district courts of the United States shall be the exclusive forum for the resolution of any complaint asserting a cause of action under the Securities Act.

This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum of its choosing for disputes with us or any of our directors, officers, other employees or stockholders, which may discourage lawsuits with respect to such claims. Alternatively, if a court were to find the choice of forum provision contained in our Certificate of Incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, operating results and financial condition.

***Our charter documents and Delaware law could prevent a takeover that stockholders consider favorable and could also reduce the market price of our stock.***

Our Certificate of Incorporation and Bylaws contain provisions that could delay or prevent a change in control of us. These provisions could also make it more difficult for stockholders to elect directors and take other corporate actions. These provisions include:

- initially providing for a classified board of directors with staggered, three-year terms;
- authorizing our board of directors to issue Preferred Stock with voting or other rights or preferences that could discourage a takeover attempt or delay changes in control;
- prohibiting cumulative voting in the election of directors;
- providing that vacancies on our board of directors may generally be filled only by a majority of directors then in office, even though less than a quorum;
- prohibiting the adoption, amendment or repeal of the Bylaws or the repeal of the provisions of our Certificate of Incorporation regarding the election and removal of directors without the required approval of at least two-thirds of the shares entitled to vote at an election of directors;
- prohibiting stockholder action by written consent;
- limiting the persons who may call special meetings of stockholders; and
- requiring advance notification of stockholder nominations and proposals.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our Board, which is responsible for appointing the members of our management. In addition, the provisions of Section 203 of the General Corporation Law of the State of Delaware ("DGCL") will govern us. These provisions may prohibit large stockholders, in particular those owning 15% or more of our outstanding voting stock, from merging or combining with us for a certain period of time without the consent of our Board. These and other provisions in our Certificate of Incorporation and our Bylaws under Delaware law could discourage potential takeover attempts, reduce the price investors might be willing to pay in the future for shares of our Common Stock and result in the market price of our Common Stock being lower than it would be without these provisions.

***Claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.***

Our Certificate of Incorporation and Bylaws provide that we will indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law.

In addition, as permitted by Section 145 of the DGCL, the Bylaws and its indemnification agreements that we entered into with our directors and officers provide that:

- we will indemnify our directors and officers for serving us in those capacities or for serving other business enterprises at our request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful;

- we may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law;

- we will be required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such directors or officers shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification;

- we will not be obligated pursuant to our Bylaws to indemnify a person with respect to proceedings initiated by that person against us or our other indemnities, except with respect to proceedings authorized by our Board or brought to enforce a right to indemnification;

- the rights conferred in the Bylaws are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees and agents and to obtain insurance to indemnify such persons; and

- we may not retroactively amend our Bylaw provisions to reduce our indemnification obligations to directors, officers, employees and agents.

***We do not intend to pay dividends for the foreseeable future.***

We have has never declared or paid any cash dividends on our capital stock and do not intend to pay any cash dividends in the foreseeable future. We expect to retain future earnings, if any, to fund the development and growth of our business. Any future determination to pay dividends on our capital stock will be at the discretion of our Board. In addition, our loan agreements contain restrictions on our ability to pay dividends.

***The market price and trading volume of our Common Stock may be volatile and could decline significantly.***

The stock markets, including Nasdaq on which we have listed the shares of our Common Stock under the symbol "ORGN," have from time to time experienced significant price and volume fluctuations. Even if an active, liquid and orderly trading market is sustained for our Common Stock, the market price of our Common Stock may be volatile and could decline significantly. In addition, the trading volume in our Common Stock may fluctuate and cause significant price variations to occur. If the market price of our Common Stock declines significantly, you may be unable to resell your shares at or above the market price of our Common Stock at which your purchased our Common Stock. We cannot assure you that the market price of Common Stock will not fluctuate widely or decline significantly in the future in response to a number of factors, including, among others, the following:

- the realization of any of the risk factors presented in this prospectus;

- actual or anticipated differences in our estimates, or in the estimates of analysts, for our revenues, results of operations, level of indebtedness, liquidity or financial condition;

- additions and departures of key personnel;

- failure to comply with the requirements of Nasdaq;

- failure to comply with the Sarbanes-Oxley Act or other laws or regulations;

- future issuances, sales, resales or repurchases or anticipated issuances, sales, resales or repurchases, of our securities;

- publication of research reports about us;
- the performance and market valuations of other similar companies;
- commencement of, or involvement in, litigation involving us;
- broad disruptions in the financial markets, including sudden disruptions in the credit markets;
- speculation in the press or investment community;
- actual, potential or perceived control, accounting or reporting problems;
- changes in accounting principles, policies and guidelines; and
- other events or factors, including those resulting from infectious diseases, health epidemics and pandemics (including the ongoing COVID-19 public health emergency), natural disasters, war, acts of terrorism or responses to these events.

In the past, securities class-action litigation has often been instituted against companies following periods of volatility in the market price of their shares. This type of litigation could result in substantial costs and divert our management's attention and resources, which could have a material adverse effect on us.

***Our quarterly operating results may fluctuate significantly and could fall below the expectations of securities analysts and investors due to seasonality and other factors, some of which are beyond our control, resulting in a decline in our stock price.***

Our quarterly operating results may fluctuate significantly because of several factors, including:

- labor availability and costs for hourly and management personnel;
- profitability of our products;
- changes in interest rates;
- impairment of long-lived assets;
- macroeconomic conditions, both nationally and locally;
- negative publicity relating to products we serve;
- changes in consumer preferences and competitive conditions;
- expansion to new markets; and
- fluctuations in commodity prices.

If securities or industry analysts do not publish or cease publishing research or reports about us, our business, or our market, or if they change their recommendations regarding our Common Stock adversely, then the price and trading volume of our Common Stock could decline.

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

***Future issuances of debt securities and equity securities may adversely affect us, including the market price of the our Common Stock and may be dilutive to existing stockholders.***

In the future, we may incur debt or issue equity-ranking senior to our Common Stock. Those securities will generally have priority upon liquidation. Such securities also may be governed by an indenture or other instrument containing covenants restricting its operating flexibility. Additionally, any convertible or exchangeable securities that we issue in the future may have rights, preferences and privileges more favorable than those of our Common Stock. Because our decision to issue debt or equity in the future will depend on market conditions and other factors beyond our control, we cannot predict or estimate the amount, timing, nature or success of our future capital raising efforts. As a result, future capital raising efforts may reduce the market price of our Common Stock and be dilutive to existing stockholders.

***There can be no assurance that we will be able to comply with the continued listing standards of Nasdaq.***

Our Common Stock and the public warrants that were issued in connection with Artius' initial public offering (the "Public Warrants") are currently listed on Nasdaq. If Nasdaq delists our securities from trading on its exchange for failure to meet the listing standards, we and our stockholders could face significant material adverse consequences including:

- a limited availability of market quotations for our securities;
- reduced liquidity for our securities;
- a determination that our Common Stock is a "penny stock" which will require brokers trading in our Common Stock to adhere to more stringent rules and possibly result in a reduced level of trading activity in the secondary trading market for our securities; or
- a decreased ability to issue additional securities or obtain additional financing in the future.

If we fail to satisfy the continued listing requirements of Nasdaq such as the corporate governance requirements or the minimum share price requirement, Nasdaq may take steps to delist our securities. Such a delisting would likely have a negative effect on the price of the securities and would impair your ability to sell or purchase the securities when you wish to do so. In the event of a delisting, we can provide no assurance that any action taken by us to restore compliance with listing requirements would allow our securities to become listed again, stabilize the market price or improve the liquidity of our securities, prevent our securities from dropping below the Nasdaq minimum share price requirement or prevent future non-compliance with Nasdaq's listing requirements. Additionally, if our securities are not listed on, or become delisted from, Nasdaq for any reason, and are quoted on the OTC Bulletin Board, an inter-dealer automated quotation system for equity securities that is not a national securities exchange, the liquidity and price of our securities may be more limited than if we were quoted or listed on Nasdaq or another national securities exchange. You may be unable to sell your securities unless a market can be established or sustained.

The National Securities Markets Improvement Act of 1996, which is a federal statute, prevents or preempts the states from regulating the sale of certain securities, which are referred to as "covered securities." Because Common Stock and Public Warrants are listed on Nasdaq, they are covered securities. Although the states are preempted from regulating the sale of our securities, the federal statute does allow the states to investigate companies if there is a suspicion of fraud, and, if there is a finding of fraudulent activity, then the states can regulate or bar the sale of covered securities in a particular case. While we are not aware of a state, other than the State of Idaho, having used these powers to prohibit or restrict the sale of securities issued by blank check companies, certain state securities regulators view blank check companies unfavorably and might use these powers, or threaten to use these powers, to hinder the sale of securities of blank check companies in their states. Further, if we were no longer listed on Nasdaq, our securities would not be covered securities and we would be subject to regulation in each state in which we offer our securities.

***We no longer qualify as an "emerging growth company" and will be required to comply with certain provisions of the Sarbanes-Oxley Act and can no longer take advantage of reduced disclosure requirements.***

Based on the market value of our common stock held by non-affiliates as of June 30, 2021, we no longer qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act, or the JOBS Act, as of the year following December 31, 2021. As a result, we may incur additional and increasing costs to comply with our reporting and other obligations that we had not historically incurred due to our status as an emerging growth company or as a smaller reporting company. These additional obligations will require us to dedicate internal resources, engage outside consultants, and adopt a detailed work plan to assess and document the adequacy of internal controls over financial reporting, continue steps to improve control processes, as appropriate, validate through testing that controls are functioning as documented, and implement a continuous reporting and improvement process for internal controls over financial reporting.

***A significant portion of our total outstanding shares of Common Stock are restricted from immediate resale but may be sold into the market in the near future. This could cause the market price of Common Stock to drop significantly, even if our business is doing well.***

Shares of our Common Stock that are currently restricted from immediate resale may be sold into the market in the near future. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of Common Stock. We are unable to predict the effect that sales may have on the prevailing market price of Common Stock and Public Warrants.

To the extent our Warrants are exercised, additional shares of Common Stock will be issued, which will result in dilution to the holders of Common Stock and increase the number of shares eligible for resale in the public market. Sales, or the potential sales, of substantial numbers of shares in the public market by the selling securityholders, subject to certain restrictions on transfer until the termination of applicable lock-up periods, could increase the volatility of the market price of Common Stock or adversely affect the market price of Common Stock.

***There is no guarantee that the Warrants will be in the money at the time they become exercisable, and they may expire worthless.***

The exercise price for our Warrants is $11.50 per share of Common Stock. There is no guarantee that the Warrants will be in the money following the time they become exercisable and prior to their expiration, and as such, the Warrants may expire worthless. Our Warrants become exercisable on July 25, 2021.

We may amend the terms of the Warrants in a manner that may be adverse to holders with the approval by the holders of at least 50% of the then-outstanding Public Warrants. As a result, the exercise price of your Warrants could be increased, the exercise period could be shortened and the number of shares of our Common Stock purchasable upon exercise of a Warrant could be decreased, all without your approval.

Our Warrants are issued in registered form under the Warrant Agreement between the warrant agent and us. The Warrant Agreement provides that the terms of the Warrants may be amended without the consent of any holder to cure any ambiguity or correct any defective provision, but requires the approval by the holders of at least 50% of the then-outstanding Public Warrants to make any change that adversely affects the interests of the registered holders of Public Warrants. Accordingly, we may amend the terms of the Public Warrants in a manner adverse to a holder if holders of at least 50% of the then-outstanding Public Warrants approve of such amendment. Although our ability to amend the terms of the Public Warrants with the consent of at least 50% of the then- outstanding Public Warrants is unlimited, examples of such amendments could be amendments to, among other things, increase the exercise price of the Warrants, convert the Warrants into cash or stock (at a ratio different than initially provided), shorten the exercise period or decrease the number of shares of our Common Stock purchasable upon exercise of a Warrant.

***We may redeem unexpired Warrants prior to their exercise at a time that is disadvantageous to warrantholders, thereby making such Warrants worthless.***

We have the ability to redeem outstanding Warrants at any time after they become exercisable and prior to their expiration, at a price of $0.01 per Warrant, provided that the last reported sales price of our Common Stock equals or exceeds $18.00 per share (as adjusted for stock splits, stock dividends, reorganizations, recapitalizations and the like) for any 20 trading days within a 30 trading-day period ending on the third trading day prior to the date on which we give proper notice of such redemption and provided certain other conditions are met. If and when the Warrants become redeemable by us, we may exercise our redemption right even if we are unable to register or qualify the underlying securities for sale under all applicable state securities laws. Redemption of the outstanding Warrants could force you (a) to exercise your Warrants and pay the exercise price therefor at a time when it may be disadvantageous for you to do so, (b) to sell your Warrants at the then-current market price when you might otherwise wish to hold your Warrants or (c) to accept the nominal redemption price which, at the time the outstanding Warrants are called for redemption, is likely to be substantially less than the market value of your Warrants.

In addition, we may redeem your Warrants after they become exercisable for a number of shares of Common Stock determined based on the redemption date and the fair market value of our Common Stock. Any such redemption may have similar consequences to a cash redemption described above. In addition, such redemption may occur at a time when the Warrants are "out-of-the-money," in which case, you would lose any potential embedded value from a subsequent increase in the value of our Common Stock had your Warrants remained outstanding.

***We may issue additional shares of Common Stock or other equity securities without your approval, which would dilute your ownership interests and may depress the market price of the Common Stock.***

As of December 31, 2021 we have Warrants outstanding to purchase an aggregate of 35,476,667 shares of Common Stock. Pursuant to the Merger Agreement, we may issue up to 25,000,000 shares of our Common Stock as Earnout Shares. In addition, pursuant to the 2021 Plan and the Employee Stock Purchase Plan ("ESPP"), we may issue an aggregate of up to 20,313,819 shares of Common Stock, which amount may be subject to increase from time to time. We may also issue additional shares of Common Stock or other equity securities of equal or senior rank in the future in connection with, among other things, future acquisitions or repayment of outstanding indebtedness, without stockholder approval, in a number of circumstances. The issuance of additional shares or other equity securities of equal or senior rank would have the following effects:

- existing stockholders' proportionate ownership interest in us will decrease;
- the amount of cash available per share, including for payment of dividends in the future, may decrease;
- the relative voting strength of each previously outstanding Common Stock may be diminished; and
- the market price of the Common Stock may decline.

## MARKET AND INDUSTRY DATA

Certain industry data and market data included in this prospectus were obtained from independent third- party surveys, market research, publicly available information, reports of governmental agencies and industry publications and surveys. All of management's estimates presented herein are based upon management's review of independent third-party surveys and industry publications prepared by a number of sources and other publicly available information. All of the market data used in this prospectus involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. We believe that the information from these industry publications and surveys included in this prospectus is reliable. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in the section titled "Risk Factors." These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by us.

## USE OF PROCEEDS

All of the shares of Common Stock and Warrants offered by the selling securityholders pursuant to this prospectus will be sold by the selling securityholders for their respective accounts. We will not receive any of the proceeds from these sales.

We will receive up to an aggregate of approximately $408.0 million from the exercise of the Warrants, assuming the exercise in full of all of the Warrants for cash. We expect to use the net proceeds from the exercise of the Warrants for general corporate purposes. We will have broad discretion over the use of proceeds from the exercise of the Warrants. There is no assurance that the holders of the Warrants will elect to exercise any or all of such Warrants. To the extent that the Warrants are exercised on a "cashless basis," the amount of cash we would receive from the exercise of the Warrants will decrease.

## DETERMINATION OF OFFERING PRICE

The offering price of the shares of Common Stock underlying the Warrants offered hereby is determined by reference to the exercise price of the Warrants of $11.50 per share. The Public Warrants are listed on Nasdaq under the symbol "ORGNW."

We cannot currently determine the price or prices at which shares of Common Stock or Warrants may be sold by the selling securityholders under this prospectus.

## MARKET INFORMATION FOR SECURITIES AND DIVIDEND POLICY

### Market Information

Our Common Stock and Public Warrants are currently listed on Nasdaq under the symbols "ORGN" and "ORGNW," respectively. Prior to the consummation of the Business Combination, Artius's Class A ordinary shares, units and warrants were listed on Nasdaq under the symbols "AACQ," "AACQU" and "AACQW," respectively. As of June 25, 2021, following the completion of the Business Combination, there were 209 holders of record of the Common Stock and two holders of record of our Warrants. We currently do not intend to list the Private Placement Warrants offered hereby on any stock exchange or stock market.

### Dividend Policy

We have never declared or paid any dividends on shares of Common Stock. We anticipate that we will retain all of our future earnings, if any, to fund the development and growth of our business. Any future determination to pay dividends on our capital stock will be at the discretion of our board of directors. In addition, certain of our loan agreements contain restrictions on our ability to pay dividends.

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

On June 25, 2021, Artius Acquisition, Inc. consummated the Business Combination with Legacy Origin pursuant to the Merger Agreement. In connection with the closing of the Business Combination, Artius changed its name to Origin Materials, Inc. Legacy Origin was deemed to be the accounting acquirer in the Merger. While Artius was the legal acquirer in the Merger, because Legacy Origin was deemed the accounting acquirer, the historical consolidated financial statements of Legacy Origin became the historical consolidated financial statements of the combined company, upon the consummation of the Merger.

The following discussion and analysis should be read in conjunction with our consolidated financial statements and related notes appearing elsewhere in this prospectus. This discussion may contain forward-looking statements based upon current expectations that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth in the sections titled “Cautionary Note Regarding Forward-Looking Statements” and “Risk Factors” as set forth elsewhere in this prospectus. Unless the context otherwise requires, references in this section to “Legacy Origin”, “the Company”, “we”, “us” and “our” refer to the business and operations of Legacy Origin and its consolidated subsidiaries prior to the Business Combination and to Origin Materials, Inc. and its consolidated subsidiaries, following the Closing.

### Overview

Origin is a carbon negative materials company with a mission to enable the world’s transition to sustainable materials by replacing petroleum-based materials with decarbonized materials in a wide range of end products, such as food and beverage packaging, clothing, textiles, plastics, car parts, carpeting, tires, adhesives, soil amendments and more. We believe that our platform technology can help make the world’s transition to “net zero” possible and support the fulfillment of greenhouse gas reduction pledges made by countries as part of the United Nations Paris Agreement as well as corporations that are committed to reducing emissions in their supply chains. Our technology can convert sustainable feedstocks such as sustainably harvested wood residues, agricultural waste, wood waste and even corrugated cardboard into materials and products that are currently made from fossil feedstocks such as petroleum and natural gas. These sustainable feedstocks are not used in food production, which differentiates our technology from other sustainable materials companies that use feedstocks such as vegetable oils or high fructose corn syrup and other sugars. While we have has succeeded in producing small amounts of our products in the pilot plant for customer trials and testing purposes, we have has not yet commenced large-scale production.

We believe that products made using Origin's platform technology can compete directly with petroleum-derived products on both performance and price. Due to abundant and renewable wood supplies that have historically stable pricing, our cost of production is expected to be more stable than potential competing platforms that use other types of feedstocks. We believe that end products made using our platform technology will have a significant unit cost advantage over products made from other low carbon feedstocks.

We have developed a proprietary platform technology to convert biomass, or plant-based carbon, into the versatile “building block” chemicals CMF and HTC, as well as other product intermediates. At a commercial scale, Origin's platform technology is expected to produce CMF and HTC with a negative carbon footprint. Origin believes these chemicals can replace petroleum-based counterparts, lowering the carbon footprint of a wide range of materials without sacrificing performance or cost.

We are currently developing and constructing our first manufacturing plant in Ontario, Canada (Origin 1), which is expected to become operational by the end of 2022. We are also currently in the planning phase for the construction of a significantly larger manufacturing plant (Origin 2), which is expected to become operational in 2025.

### Impact of the COVID-19 Pandemic

In March 2020, the COVID-19 outbreak was declared a pandemic by the World Health Organization. The pandemic has resulted in governments around the world implementing increasingly stringent measures to help control the spread of the virus, including quarantines, “shelter in place” and “stay at home” orders, travel restrictions, business curtailments, school closures and other measures. In addition, governments and central banks in several parts of the world have enacted fiscal and monetary stimulus measures to counteract the impacts of the COVID-19 pandemic.

We continue to monitor the rapidly evolving conditions and circumstances, as well as guidance from international and domestic authorities, including public health authorities, and we may need to take additional actions based on their recommendations. There is considerable uncertainty regarding the impact on our business stemming from current measures and potential future measures that could restrict access to our facilities, limit manufacturing and support operations and place restrictions on our workforce and suppliers. The measures implemented by various authorities related to the COVID-19 outbreak have caused us to change our business practices including those related to where employees work, the distance between employees in our facilities, limitations on in-person meetings between employees and with customers, suppliers, service providers and stakeholders, as well as restrictions on business travel to domestic and international locations or to attend trade shows, investor conferences and other events.

The full extent to which the ongoing COVID-19 pandemic adversely affects our financial performance will depend on future developments, many of which are outside of our control, that are highly uncertain and cannot be predicted, including, but not limited to, the duration and spread of the pandemic, its severity, the effectiveness of actions to contain the virus (including the availability and effectiveness of vaccines) or treat its impact, and how quickly and to what extent normal economic and operating conditions can resume. The COVID-19 pandemic could also result in additional governmental restrictions and regulations, which could harm Origin’s business and financial results. In addition, a recession, depression or other sustained adverse market impact resulting from COVID-19 could harm our business and its access to needed capital and liquidity. Even after the COVID-19 pandemic has subsided, Origin may continue to experience adverse impacts on its business and financial performance as a result of the global economic impact of the COVID-19 pandemic.

To the extent that the COVID-19 pandemic adversely affects our business, results of operations, financial condition or liquidity, it may also heighten other risks, such as the risk that, if the business impacts of COVID-19 carry on for an extended period, we may be required to recognize impairments for certain long-lived assets including amortizable intangible assets.

**Key Factors and Trends Affecting Origin’s Operating Results**

We are a pre-revenue company. We believe that our performance and future success depend on several factors that present significant opportunities for us but also pose risks and challenges, including those discussed below and under “Risk Factors” appearing elsewhere in this prospectus.

**Basis of Presentation**

We currently conduct our business through one operating segment. As a pre-revenue company with no commercial operations, our activities to date have been limited, and our historical results are reported under U.S. GAAP and in U.S. Dollars. Upon commencement of commercial operations, we expect to expand our operations substantially, including in the United States and Canada, and as a result, we expect Origin's future results to be sensitive to foreign currency transaction and translation risks and other financial risks that are not reflected in Origin's historical financial statements. As a result, we expect that the financial results we report for periods after we begin commercial operations will not be comparable to the financial results included in this prospectus.

**Components of Results of Operations**

We are a pre-revenue company and our historical results may not be indicative of our future results for reasons that may be difficult to anticipate. Accordingly, the drivers of our future financial results, as well as the components of such results, may not be comparable to our historical or projected results of operations.

***Research and Development Expenses***

To date, our research and development expenses have consisted primarily of development of our four key product intermediates CMF, HTC, levulinic acid and furfural, and the conversion of those intermediates into products familiar to and desired by our customers, such as PX and PET. Our research and development expenses also include investments associated with the expansion of the Origin 1 plant and planning and construction of the Origin 2 plant, including the material and supplies to support product development and process engineering efforts.

***General and Administrative Expenses***

General and administrative expenses consist primarily of personnel-related costs, including stock-based compensation, professional fees, including, the costs of accounting, audit, legal, regulatory and tax compliance.

Additionally, costs related to advertising, trade shows, corporate marketing, as well as an allocated portion of our occupancy costs also comprise general and administrative expenses.

***Change in Fair Value of Assumed Common Stock Warrants Liability***

The change in fair value of assumed common stock warrants liability consists of the change in fair value of the Public Warrants and Private Placement Warrants assumed in connection with the Business Combination. We expect to incur an incremental income (expense) for the fair value adjustments for the outstanding assumed common stock warrants liability at the end of each reporting period or through the exercise of the warrants.

***Other Income (Expense)***

Our other income (expense) consists of income from governmental grant programs, interest expense for stockholder convertible notes payable, interest income on marketable securities and income or expenses related to changes in the fair value of assumed common stock warrants liability, earnout liability, and derivative assets and liabilities. We expect to incur an incremental income (expense) for the fair value adjustments of these assets and liabilities at the end of each reporting period.

***Income Tax Expense (Benefit)***

Our income tax provision consists of an estimate for U.S. federal and state income taxes based on enacted rates, as adjusted for allowable credits, deductions, uncertain tax positions, changes in deferred tax assets and liabilities, and changes in the tax law. We maintain a valuation allowance against the full value of our U.S. and state net deferred tax assets because we believe the recoverability of the tax assets is not more likely than not.

***Non-GAAP Measures***

To provide investors with additional information in connection with our results as determined in accordance with GAAP, we disclose Adjusted Earnings before Interest, Taxes, Depreciation, and Amortization (Adjusted EBITDA) as a non-GAAP measure. This measure is not a financial measure calculated in accordance with GAAP, and it should not be considered as a substitute for net income, operating income, or any other measure calculated in accordance with GAAP, and may not be comparable to similarly titled measures reported by other companies.

***Adjusted EBITDA***

We believe that the presentation of Adjusted EBITDA is appropriate to provide additional information to investors about our operating profitability adjusted for certain non-cash items, non-routine items that we do not expect to continue at the same level in the future, as well as other items that are not core to our operations. Further, we believe Adjusted EBITDA provides a meaningful measure of operating profitability because we use it for evaluating our business performance, making budgeting decisions, and comparing our performance against that of other peer companies using similar measures.

We define Adjusted EBITDA as net income or loss adjusted for certain non-cash and non-recurring items, including (i) stock-based compensation expense, (ii) depreciation and amortization, (iii) interest income, (iv) interest expense, net of capitalized interest, (v) change in fair value of derivative liabilities, (vi) change in fair value of warrants liability, (vii) change in fair value of earnout liability, (viii) professional fees related to completed mergers, and (ix) other income, net.

| (in thousands) | Year ended December 31, 2021 | 2020 |
|---|---|---|
| Net income (loss) | $ 42,090 | $ (30,302) |
| Stock based compensation | 5,767 | 1,630 |
| Depreciation and amortization | 544 | 479 |
| Interest income | (1,413) | — |
| Interest expense, net of capitalized interest | 2,838 | 341 |
| Change in fair value of derivative liabilities | 1,326 | 1,088 |
| Change in fair value of warrants liability | 4,525 | 18,498 |
| Change in fair value of earnout liability | (75,488) | — |
| Professional fees related to completed mergers | 640 | — |
| Other income, net | (811) | (805) |
| Adjusted EBITDA | $ (19,982) | $ (9,071) |

## Results of Operations

***Comparison of the Year Ended December 31, 2021 and 2020***

The following table summarizes the Company’s results of operations with respect to the items set forth in such table for the year ended December 31, 2021 and 2020 together with the change in such items in dollars and as a percentage.

| (in thousands) | Year Ended December 31, 2021 | 2020 | Variance | Variance % |
|---|---|---|---|---|
| Operating expenses: | | | | |
| Research and development | $ 9,124 | $ 4,138 | $ 4,986 | 120 % |
| General and administrative expenses | 17,265 | 6,563 | 10,702 | 163 % |
| Depreciation and amortization | 544 | 479 | 65 | 14 % |
| Total operating expenses and loss from operations | 26,933 | 11,180 | 15,753 | 141 % |
| Other expenses (income): | | | | |
| Interest income | (1,413) | — | (1,413) | 100 % |
| Interest expense, net of capitalized interest | 2,838 | 341 | 2,497 | 732 % |
| Change in fair value of derivative liabilities | 1,326 | 1,088 | 238 | 22 % |
| Change in fair value of warrant liability | 4,525 | 18,498 | (13,973) | 76 % |
| Change in fair value of earnout liability | (75,488) | — | (75,488) | 100 % |
| Other income, net | (811) | (805) | (6) | 1 % |
| Total other expense (income), net | (69,023) | 19,122 | (88,145) | (461)% |
| Net income (loss) | $ (42,090) | $ 30,302 | $ (72,392) | (239)% |

***Research and Development Expenses***

Research and development expenses increased $5.0 million, or 120%, from 2020 compared to 2021. This increase was primarily due to increases of $1.1 million in stock compensation related to additional stock grants, $0.6 million in fees paid to third-party consultants, $1.8 million related to incremental research and development staffing,

$0.3 million in additional research and development supplies, $0.3 million in additional service costs, $0.2 million in additional software and information technology costs, and $0.7 million in other additional expenses.

***General and Administrative Expenses***

General and administrative expenses increased $10.7 million, or 163%, from 2020 compared to 2021. This increase was primarily related to increases of $3.0 million in stock compensation expenditures, $0.8 million for incremental increases in staffing supporting construction of Origin 1, including additional expense for personnel within executive, accounting, procurement, sales, and supply-chain development, as well as services in support of the Merger, $0.4 million in legal and professional fees related to regulatory compliance costs, $0.6 million in professional fees related to completed mergers, $2.1 million in additional directors and officers insurance policies, $0.6 million in additional software and information technology costs, $2.8 million in financing costs, and $0.4 million in marketing costs.

***Interest income***

Interest income increased $1.4 million from 2020 compared to 2021. This increase was related to $1.4 million in interest income from investments in marketable securities.

***Interest expense. net of capitalized interest***

Interest expense increased $2.5 million from 2020 compared to 2021. This increase is due to the issuance of stockholder convertible notes in November 2019 resulting in an increase to interest expense of $0.4 million and $2.2 million related to the increase in accretion expense for debt issuance costs.

***Change in fair value of derivative liabilities, warrant liability, and earnout liability***

The Company recognized a gain on the change in the fair values of the derivative liabilities, the warrant liability, and the earnout liability in the amount of $89.2 million from 2020 to 2021. The earnout liability and a portion of the change in the warrant liability are from newly created liabilities reclassified from equity as a result of the Business Combination, with a combined decrease in fair value of $89.4 million resulting from the change in fair value of these instruments over the period from the closing of the merger to December 31, 2021. The decrease in fair value was offset by a $0.3 million increase in the fair value of derivative liability and $0.1 million unrealized gain in the fair value of the foreign currency forward contract derivatives. The movement in these instruments' fair values are driven by the value of the Company's stock price.

***Other Income, net***

Other income increased a total of $0.0 million from 2020 compared to 2021. This increase was primarily related to $0.2 million in realized gain on sold marketable securities offset by a decrease of $0.2 million in grant income.

**Liquidity and Capital Resources**

***Sources of Liquidity***

Since inception, we have financed our operations principally from the sales and issuances of redeemable preferred stock, common stock, and convertible notes, and governmental grant programs. Origin had $444.6 million and $1.9 million in cash, cash equivalents, restricted cash and marketable securities as of December 31, 2021 and December 31, 2020, respectively. Our cash equivalents are invested primarily in U.S. Treasury money market funds and our marketable securities are primarily U.S. Treasury notes and bonds, corporate bonds, asset-back securities, foreign government and agency securities, and municipal bonds.

We are yet to generate any revenue from our business operations. Our ability to successfully develop the products, commence commercial operations and expand the business will depend on many factors, including our ability to meet the working capital needs, the availability of equity or debt financing and, over time, our ability to generate cash flows from operations.

We will require a significant amount of cash for capital expenditures as we invest in the construction of Origin 1 and Origin 2 plants, and additional research and development. In addition to our cash on hand following the Business Combination, we anticipate that we will need substantial additional project financing and government incentives to meet our financial projections, execute our growth strategy and expand our manufacturing capability, including to finance the construction of the Origin 1 and Origin 2 plants. Our ability to obtain financing for the construction of future plants may depend in part on our ability to first enter into customer agreements sufficient to demonstrate sufficient demand to justify the construction of such plants. We may also raise additional capital through equity offerings or debt financings, as well as through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties. Our future capital requirements will depend on many factors, including actual construction costs of the Origin 1 and Origin 2 plants, changes in the costs in our supply chain, expanded operating activities and our ability to secure customers. If our financial projections are inaccurate, we may need to seek additional equity or debt financing from outside sources, which may not be available on acceptable terms, if at all. If we are unable to raise additional capital when required, our business, financial condition and results of operations would be harmed.

We expect to continue to incur operating losses in the near term as our operating and capital expenses will increase to support the growth of the business. We expect that our general and administrative expenses and research and development expenses will continue to increase as we increase our sales and marketing activities, develop our distribution infrastructure, support our growing operations and operate as a public company.

***Indebtedness***

In November 2019, Legacy Origin entered into secured convertible note agreements (the “2019 Notes”) with certain Legacy Origin preferred stockholders, whereby Legacy Origin could borrow up to $6.0 million in aggregate from the noteholders. The 2019 Notes bear an annual interest rate of 10% and an original maturity date of September 30, 2021. All principal and accrued interest under the 2019 Notes were converted into shares of Legacy Origin Common Stock immediately prior to the closing of the Business Combination.

In April 2020, Legacy Origin received an unsecured loan in the amount of $905,838 under the Paycheck Protection Program (the “PPP Loan”). The Paycheck Protection Program was established under the CARES Act and is administered by the U.S. Small Business Administration. The PPP Loan had a two-year term and bears interest at a rate of 1.00% per annum. This loan was repaid on June 24, 2021.

As of December 31, 2021 and December 31, 2020, we have $6.8 million and $6.2 million of indebtedness under a Canadian government program, respectively, of which $0.5 million and $2.6 million was received during the year ended December 31, 2021 and December 31, 2020, respectively. Additionally, as of December 31, 2021, we had liability balances consisting of a $5.1 million legacy related party customer prepayment, $5.7 million legacy related party liabilities, and $2.5 million in customer prepayments. As of December 31, 2020, we had liability balances consisting of a $2.5 million customer prepayment, a $5.5 million legacy stockholder note, and a $5.1 million legacy related party customer prepayment.

During 2020, we received $550,000 for the admission of an additional member to a consortium agreement with two legacy Series B preferred stock investors and a legacy Series C investor to collaborate on development of a process to commercialize bio-based, decarbonizing materials for application on an industrial scale at a competitive price. These funds were recorded as other income, net, in the Statements of Operations and Comprehensive Income (Loss).

In February 2021, Legacy Origin issued and sold convertible promissory notes with an aggregate principal amount of $10.0 million and an interest rate of 8.0% per annum (the “2021 Notes”). The 2021 Notes had an original maturity date on September 30, 2021. All principal and accrued interest on the 2021 Notes were converted into shares of Legacy Origin Common Stock immediately prior to the closing of the Business Combination.

In November 2016, Legacy Origin received a $5.0 million prepayment from a stockholder for product from Origin 1 pursuant to an Offtake Agreement. The prepayment was to be credited against the purchase of products over the term of the agreement. The prepayment was secured by a promissory note to be repaid in cash in the event that the prepayment could not be credited against the purchase of product, for example, if Origin 1 is never constructed. The promissory note was collateralized substantially by Origin 1 and other assets of Origin Material Canada Pioneer Limited. In May 2019, Legacy Origin and the legacy stockholder amended the offtake agreement and promissory note. The amendment added accrued interest of $0.2 million to the principal balance of the prepayment and provided for the prepayment amount to be repaid in three annual installments rather than being applied against the purchase of product from Origin 1. The promissory note would bear interest at 3.5% per annum and be repaid in three installments of $2.2 million, $2.1 million, and $2.1 million (inclusive of accrued but unpaid interest) on December 20, 2024, December 19, 2025, and December 18, 2026, respectively. At December 31, 2021 and December 31, 2020, the total aggregate principal amount of debt outstanding was $5.2 million and accrued interest totaled $0.5 million and $0.3 million, respectively.

***Prepayments***

In November 2016, Legacy Origin received a $5.0 million prepayment from a legacy stockholder for product from Origin 1 pursuant to an Offtake Agreement. The prepayment is to be credited against the purchase of products from Origin 1 over the term of the Offtake Agreement. Specifically, repayment is effected by applying a credit to product purchases each month over the first five years of operation of Origin 1 up to $7.5 million, which is equal to 150% of the prepayment amount. If product purchases are not sufficient to recover the advances, the application of the credit to purchases as payment of the advances will continue until fully repaid. The prepayment is secured by a note to be repaid in cash in the event the prepayment cannot be credited against the purchase of product, for example, if Origin 1 is never constructed. The note is collateralized substantially by Origin 1 and other assets of Origin Material Canada Pioneer Limited. If repaid in cash, the note bears an annual interest rate of the three-month London Interbank Offered Rate (LIBOR) plus 0.25% (0.38% at December 31, 2021) and matures five years from the commercial operation date of Origin 1. At December 31, 2021 and December 31, 2020 the total note principal outstanding was $5.1 million plus accrued interest of $0.1 million and $0.1 million, respectively.

In September 2019, Legacy Origin entered into a $5.0 million prepayment agreement with a counterparty for the purchase of products from Origin 2. The prepayment is to be made in two equal installments: the first $2.5 million was in October 2019 and the remaining $2.5 million is due within 30 days of the customer confirming that a sample from Origin 1 meets the customer’s specifications. Origin and the customer agreed to work in good faith to execute an Offtake Agreement, the agreed terms of which are set forth in the prepayment agreement, whereby 100% of the prepayment will be applied against future purchases. The prepayment agreement provides the customer a capacity reservation of up to a specified annual volume of product from Origin 1 for a term of ten years, pursuant to the terms of an Offtake Agreement. At December 31, 2021 and December 31, 2020, the total amount outstanding on this agreement was $2.5 million.

***Cash Flows for the Year Ended December 31, 2021 Compared to the Year Ended December 31, 2020***

The following table shows a summary of cash flows for the year ended December 31, 2021 and 2020:

| | Year Ended December 31, | |
|---|---|---|
| | 2021 | 2020 |
| Total cash used in operating activities | $ (22,043) | $ (5,461) |
| Total cash used in investing activities | (411,638) | (2,054) |
| Total cash provided by financing activities | 478,948 | 5,829 |
| Effects of foreign exchange rate changes on the balance of cash and cash equivalents, and restricted cash held in foreign currencies | (14) | (52) |
| Net increase (decrease) in cash | $ 45,253 | $ (1,738) |

***Cash Used in Operating Activities***

Net cash used in operating activities was $22.0 million for the year ended December 31, 2021, compared to net cash used in operating activities of $5.5 million over the same period in 2020. The increase in cash used in operating activities was primarily attributable to an increase in net loss (after adjusting for non-cash items) attributed to incremental increases in staffing supporting construction of Origin 1, including additional expense within executive, accounting, procurement, sales, and supply-chain development, increase in prepaid expenses and other current assets, and offset by decreases in accrued expenses.

***Cash Used in Investing Activities***

Net cash used in investing activities was $411.6 million for the year ended December 31, 2021, compared to net cash used in investing activities of $2.1 million over the same period in 2020. Our cash flows from investing activities, to date, have been comprised of purchases of property and equipment and purchases and maturities of our marketable securities. We expect the costs to acquire property, plant and equipment to increase substantially in the near future as we fully build out Origin 1 as well as acquire the property, plant and equipment for Origin 2. The change was primarily related to net purchases of marketable securities of $424.2 million for the year ended December 31, 2021, compared to $0.0 million for the year ended December 31, 2020. and cash used for property, plant and equipment purchases in the year ended December 31, 2021 of $12.3 million, an increase over the $1.8 million of cash used for property, plant and equipment purchases in the year ended December 31, 2020. The Company continues to increase activity related to the construction of Origin 1, which is the main driver of the variation in cash used in investing activities between the two periods.

***Cash Provided by Financing Activities***

Net cash provided by financing activities was $478.9 million for the year ended December 31, 2021, compared to net cash provided by financing activities of $5.8 million over the same period in 2020. The Company completed a business combination during the year ended December 31, 2021, netting cash proceeds of $467.5 million. Cash of $11.7 million was provided by proceeds from notes payable, payments of $0.9 million were made on short term debt, and $0.5 million provided by proceeds from Canadian Government Research and Development during the year ended December 31, 2021, compared to cash of $3.2 million provided by proceeds from notes payable, payments of $0.0 million were made on short-term debt, and $2.7 million provided by proceeds from Canadian Government Research and Development over the same period in 2020.

***Material Cash Requirements from Known Contractual Obligations***

Our material cash requirements from known contractual obligations as of December 31, 2021, consisted of:

- The total cost of Origin 1, our initial plant, under construction in Sarnia, Ontario, Canada and Origin 2 is projected to cost over $1.1 billion, including amounts spent in 2021. These costs, plus the ongoing operating loss of the Company is expected to be funded through a combination of Company cash and marketable securities in addition to substantial project financing and government incentives. We also expect to secure funding for plant construction under potential collaborations, strategic alliances or marketing, distribution or licensing arrangements which have not yet been secured, until such time as Origin 2 is operational.

- Operating lease liabilities that are included in our consolidated balance sheets consists of future non-cancelable minimum rental payments under operating leases for our office space, research and development space, and leases of various office equipment, warehouse space, and temporary fencing. For additional information regarding our lease liabilities, see Note 18 to the consolidated financial statements in Item 8 of this prospectus.

**Critical Accounting Policies and Estimates**

Our financial statements have been prepared in accordance with U.S. GAAP. In the preparation of these consolidated financial statements, we are required to use judgment in making estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the financial statements, as well as the reported expenses incurred during the reporting periods.

We consider an accounting judgment, estimate or assumption to be critical when (1) the estimate or assumption is complex in nature or requires a high degree of judgment and (2) the use of different judgments, estimates and assumptions could have a material impact on the consolidated financial statements. Our significant accounting policies are described in Note 3 to our consolidated financial statements included elsewhere in this prospectus. We have the critical accounting policies and estimates which are described below.

***Stock-Based Compensation***

Origin may grant a wide variety of equity securities under various stock incentive plans, including incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock awards, RSU awards, performance stock awards, and other awards. At December 31, 2021, the Company has granted incentive stock options, RSU awards, and performance awards. Origin measures stock options and other stock-based awards granted to employees, directors and other service providers based on their fair value on the date of grant and recognizes compensation expenses of those awards over the requisite service period, net of estimated forfeitures, which is generally the vesting period of the respective award. For awards with performance conditions, compensation is recorded once there is sufficient objective evidence the performance conditions are considered probable of being met. The estimated number of stock awards that will ultimately vest requires judgement, and to the extent actual results or updated estimates differ from our current estimates, such amounts will be recorded as a cumulative adjustment in the period estimates are revised. Origin applies the straight-line method of expense recognition to all awards with only service-based vesting conditions. Origin estimates the fair value of each stock option grant on the date of grant using the Black-Scholes option-pricing model and the grant date closing stock price for restricted stock awards. The Black-Scholes option-pricing model requires the use of highly subjective assumptions including:

- *Expected Term*—Origin have opted to use the “simplified method” for estimating the expected term of plain-vanilla options, whereby the expected term equals the arithmetic average of the vesting term and the original contractual term of the option (generally 10 years).

- *Risk-Free Interest Rate*—The risk-free rate assumption is based on the U.S. Treasury zero-coupon instruments with maturities similar to the expected term of Origin’s stock options.

- *Expected Dividend*—Origin has not issued any dividends and does not anticipate issuing dividends on Origin’s common stock. As a result, Origin has estimated the dividend yield to be zero.

- *Forfeiture*— The Company estimates forfeitures based on historical activity and considers voluntary and involuntary termination behavior as well as analysis of actual historical option forfeitures, netting the estimated expense by the derived forfeiture rate.

- *Expected Volatility*—Due to Origin’s limited operating history and a lack of company-specific historical and implied volatility data, Origin has based its estimate of expected volatility on the historical volatility of a group of similar companies that are publicly traded. The historical volatility data was computed using the daily closing prices for the various companies’ shares during the equivalent period of the calculated expected term of the stock-based awards.

***Warrant Liability***

We account for the Warrants in accordance with the guidance contained in ASC 815-40-15-7D and 7F under which the Warrants do not meet the criteria for equity treatment and must be recorded as liabilities. Accordingly, we classify the Warrants as liabilities at their fair value and adjust the Warrants to fair value at each reporting period. This liability is subject to re-measurement at each balance sheet date until exercised, and any change in fair value is recognized in our statement of operations. The Private Warrants and the Public Warrants for periods where no observable traded price was available are valued using a Monte Carlo simulation. For periods subsequent to the detachment of the Public Warrants from the Units, the Public Warrant quoted market price was used as the fair value as of each relevant date.

***Earnout Liability***

The Company has recorded an earnout liability related to future contingent equity shares related to the Business Combination (Note 13). The Company recorded these instruments as liabilities on the consolidated balance sheet at fair value, with subsequent changes in their respective fair values recognized in earnings at each reporting date. The determination of the fair value involves certain judgments and estimates. These judgments include, but are not limited to, the probability of achievement of the market conditions, expected volatility of the Company's common stock, and the appropriate discount rate.

***Investments in Marketable Debt Securities, Available-for-Sale***

We maintain a portfolio of investments in a variety of fixed and variable rate debt securities, including U.S. treasuries, U.S. government sponsored entities, corporate debt, asset-backed securities and other. We consider our investments in marketable debt securities to be available-for-sale, and accordingly, are recorded at their fair values. We determine the appropriate classification of investments in marketable debt securities at the time of purchase. Interest along with amortization of purchase premiums and accretion of discounts from the purchase date through the estimated maturity date, including consideration of variable maturities and contractual call provisions, are included in other income (expense), net in the consolidated statements of operations. At December 31, 2021 the fair value of marketable securities was estimated to be $397.5 million. See Note 6 - "Fair Value Measurements" of our Notes to the Consolidated Financial Statements for additional information. We typically invest in highly-rated debt securities, and our investment policy generally limits the amount of credit exposure to any one issuer. The policy requires substantially all investments to be investment grade, with the primary objective of minimizing the potential risk of principal loss.

We regularly review our available-for-sale marketable securities in an unrealized loss position and evaluate the current expected credit loss by considering factors such as historical experience, market data, issuer-specific factors, and current economic conditions. As of December 31, 2021 none of the marketable securities in an unrealized loss position have been in the continuous unrealized loss for more than twelve months. The unrealized losses were attributable to changes in interest rates that impacted the value of the investments, and not increased credit risk. Accordingly, we have not recorded an allowance for credit losses associated with these investments. Declines in the fair value of our investments judged to be other than temporary could adversely affect our future operating results.

**Recent Accounting Pronouncements**

See Note 5 to the consolidated financial statements in this prospectus for more information about recent accounting pronouncements, the timing of their adoption, and our, to the extent it has made one, of their potential impact on our financial condition and its results of operations and cash flows.

## BUSINESS

### Overview

Origin Materials, Inc. ("Origin") is a carbon negative materials company with a mission to help enable the world's transition to sustainable materials by replacing petroleum-based materials with decarbonized materials in a wide range of end products, such as food and beverage packaging, clothing, textiles, plastics, car parts, carpeting, tires, adhesives, soil amendments and more. We believe that our platform technology can help make the world's transition to "net zero" possible and support the fulfillment of greenhouse gas reduction pledges made by countries as part of the United Nations Paris Agreement as well as corporations that are committed to reducing emissions in their supply chains.

Our technology can convert sustainable feedstocks such as sustainably harvested wood residues, agricultural waste, wood waste and even corrugated cardboard into materials and products that are currently made from fossil feedstocks such as petroleum and natural gas. These sustainable feedstocks are not used in food production, which differentiates our technology from other sustainable materials companies that use feedstocks such as vegetable oils or high fructose corn syrup and other sugars.

We believe that products made using Origin's platform technology can compete directly with petroleum-derived products on both performance and price. Due to abundant and renewable wood supplies that have historically stable pricing, our cost of production is expected to be more stable than potential competing platforms that use other types of feedstocks. We believe that end products made using our platform technology will have a significant unit cost advantage over products made from other low carbon feedstocks.

Our platform technology converts biomass-plant-based carbon into "building block" chemicals that can be converted into both "drop-in" materials and new materials with differentiated functional performance. The "drop-in" products are chemically fungible with those produced from petroleum-based raw materials, and therefore these "drop-in" products can be fed into existing supply chains without modification to the equipment or production processes of our customers.

Origin's capability to produce carbon negative materials at is protected by an intellectual property portfolio comprised of 19 patent families as well as trade secrets covering non-discoverable aspects of Origin's critical manufacturing processes.

We have developed strong partnerships with large, brand-name corporations determined to transition to sustainable materials to help meet their emissions reduction goals. For example, in 2017, we founded the "NaturALL Bottle Alliance" with Danone and Nestlé Waters, with PepsiCo joining in 2018, to accelerate the development of innovative packaging solutions made with 100% sustainable and renewable resources. Each member of the NaturALL Bottle Alliance has agreed to assist in establishing a supply chain for the production of the sustainable materials being developed by the NaturALL Bottle Alliance. Each member has also agreed to provide technical equipment, resources, know-how and scientific skills necessary for the performance of the NaturALL Bottle Alliance's research and development program, and to be responsible for its own expenses. The members' offtake agreements with us provide additional financial support for the research and development program and the commercialization of sustainable materials under development by the NaturALL Bottle Alliance. In addition to being customers, Danone, Nestlé and PepsiCo are also investors in Origin.

Our vision for the future is the replacement of fossil-based feedstocks and materials with non-food, plant-based feedstocks and materials, while capturing carbon in the process. Our decarbonizing platform technology potentially addresses an estimated $1.0 trillion dollar market opportunity, and we believe it can help revolutionize the production of a wide range of end products.

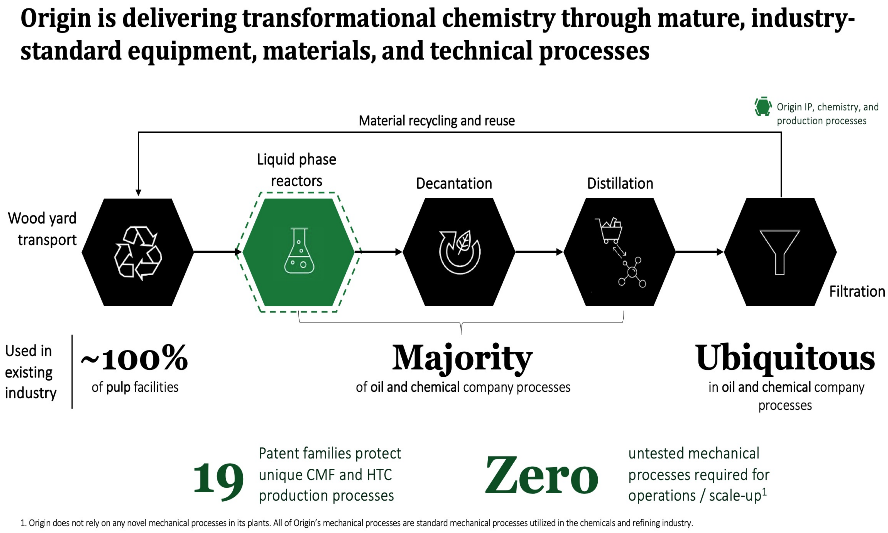
### Our Platform Technology

We have developed a proprietary platform technology to convert biomass, or plant-based carbon, into the versatile "building block" chemicals chloromethylfurfural ("CMF") and hydrothermal carbon ("HTC"), which we collectively refer to as Furanic Intermediates, as well as other minor products. At commercial scale, our platform technology is expected to produce CMF and HTC with a negative carbon footprint. We believe these chemicals can replace petroleum-based inputs, lowering the carbon footprint of a wide range of materials without increasing cost or sacrificing performance.

***CMF***. CMF is a chemically flexible intermediate that can be converted into a variety of products, including paraxylene (“PX”), that can “drop in” to current supply chains to produce purified terephthalic acid (“PTA”), and subsequently polyethylene terephthalate (“PET”), or polyethylene furanoate (“PEF”). CMF and its derivatives can be used to produce numerous commodity and specialty chemicals. We have developed products made from CMF that can be used in applications such as food and beverage packaging and apparel and carpet fibers, and our product development pipeline includes applications such as adhesives, coatings and plasticizers.

***HTC***. HTC is a diverse, high-potential carbon-negative material. Current applications of our HTC include a drop-in, energy-dense solid fuel. HTC can also be calcined to produce a carbon-negative activated carbon for food and water treatment and filtration. Our HTC product development pipeline includes carbon black replacement for tires, foams and dyes, paint and coating applications, and agriculture and soil products. Notably, our carbon black has no detectable carcinogenic compounds, known as polyaromatic hydrocarbons, found in carbon black produced from fossil feedstocks.

Our manufacturing process to produce CMF and HTC consists of front end feedstock handling, and subsequent liquid phase reaction with our catalyst mixture, followed by downstream separation processes to separate and purify CMF, HTC and other co-products, as described in the following diagram.




**Market Opportunity**

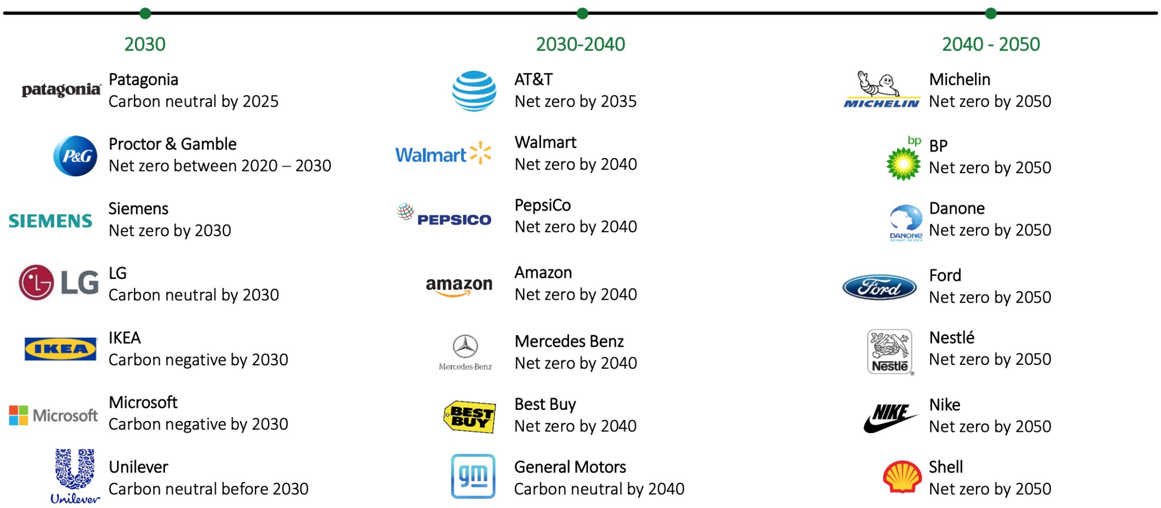
***Global Decarbonization Commitments***

We believe that increasing consumer awareness and growing governmental initiatives are driving a shift in the global community towards decarbonized materials. The UN Paris Agreement of 2015, joined by 190 countries to date, includes commitments to limit the global average temperature increase by 2100 to well below 2°C compared to pre-industrial levels. To achieve this target, the UN estimated in 2019 that annual carbon dioxide (“CO2”) emissions must be 15 gigatons lower than current nationally determined contributions imply.

According to a 2019 Ellen MacArthur Foundation study, approximately 45% of global CO2 emissions are associated with manufacturing products, including the production of materials and chemicals from which those products are made. According to a 2019 Barclays estimate, the chemicals market consumes 10.6 million barrels of oil per day, releasing massive quantities of new carbon into the atmosphere in the process. Our vision for the future is to replace fossil-based feedstocks and materials with sustainably harvested wood and other non-food, sustainable feedstocks. As a tree grows, it consumes existing CO2 from the atmosphere, and when it dies and decays, that CO2 is released back into the atmosphere. However, through our proprietary manufacturing process, we convert the wood into manufacturing and feedstock materials, thereby capturing that CO2.

Many companies have already pledged to achieve net zero carbon targets, with some aiming to achieve that target within the next decade. Despite the progress in the shift to renewable energy generation and electric vehicles, we believe that reducing emissions from energy use alone is insufficient to achieve the goals and commitments established by companies and governments. Consequently, in the near-term, we believe that these companies will need to integrate decarbonized materials into their supply chains.

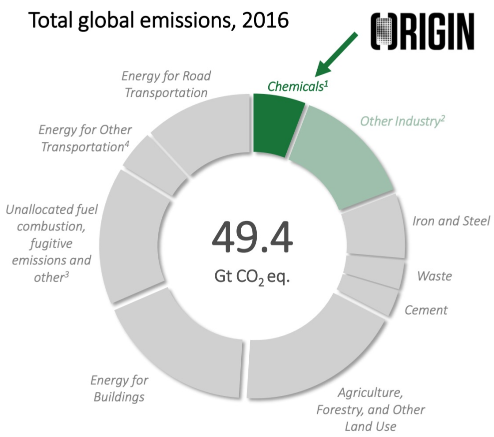
The graphic below highlights some of the notable companies that have made public commitments to decarbonization and their respective decarbonization targets:




Source: Company websites and press search.

***Our Addressable Market***

According to the International Energy Agency, the chemical sector is the largest industrial consumer of both oil and gas. Currently, organic chemicals are predominantly derived from fossil sources such as petroleum. These chemicals are used to produce a wide array of materials from paints to plastics, space suits to solar panels, and from medicines to electronics. According to a 2019 Barclays estimate, more than 10 million barrels of oil are consumed daily to create these materials, releasing massive quantities of new carbon into the atmosphere in the process. According to a 2018 report by The Association of Plastic Recyclers, for example, every kilogram of virgin fossil-PET has a life cycle global warming potential of 2.78 kilograms of carbon emissions. Our platform technology will enable companies to lower their overall CO2 emissions and meet their emissions reduction commitments by substituting decarbonizing Furanic Intermediates and their derivatives for all or a portion of the fossil-based content of materials like PET in their supply chains.




Source: Our World in Data, 2020

Our platform technology can produce carbon-negative and low carbon replacements for chemicals that have many potential applications. Our platform technology is expected to address some of these applications as soon as its initial production capacity is online, and to address other potential applications over time. Origin's near-term and long-term addressable markets together exceed $1 trillion.

***$390+ billion near-term market focus.*** We believe our technology can serve near-term markets representing an aggregate market opportunity that we believe is over $390 billion when Origin 2 and Origin 3 open. These markets include polyesters for textiles, PET resin for packaging, solid fuels, activated carbon and carbon black for tires and polymer fillers. We expect the Origin 2 plant to be operational in mid-2025 and the Origin 3 plant to be operational in 2027.

***$750+ billion long-term market focus.*** Our platform technology produces versatile chemical “building blocks” that we anticipate, in the long term, can be converted into products to replace a broad range of chemicals and materials representing an addressable market that we believe is more than $750 billion. These markets include paints, coatings, soil additives, advanced polyesters, epoxies, plasticizers, polyurethanes, elastomers, emulsions and solvents.

**Competitive Landscape**

We expect our products to compete with traditional, petroleum-based materials currently used in Origin's target markets, as well as compete with alternatives to these materials that both established and new companies seek to produce.

In our near-term markets, we expect to compete with established producers of PET fibers and resins, activated carbon and carbon black. Producers of these materials include global oil and petrochemical companies and large international diversified chemical companies. Several of these producers are seeking to develop materials from renewable sources that could compete with our products. Moreover, a number of established companies and new entrants have announced intentions to develop renewable alternatives for existing chemical products used in our near-term focus markets.

In addition to competition from producers of petroleum-based materials and renewable alternatives, we expect to face competition from recycled materials such as recycled PET (“rPET”) in certain applications in our near-term focus markets. We do not believe that recycled materials will achieve the required scale and penetration to impact the market demand for our products before 2030 because recycling streams are significantly supply-constrained. We believe that improving the supply constraint for recycling will require substantial investments in infrastructure and fundamental changes to the existing entrenched governmental and institutional recycling systems and customer behavior and habits. Additionally, unless there are major changes to current technology and infrastructure, we believe that it will be difficult to implement 100% rPET material sourcing for many applications.

In our long-term focus markets, we expect to face competition from, among others, incumbents that include large chemical companies that continue to rely on petroleum-based feedstocks in their production processes.

Given our leading position in decarbonized materials, we also expect to compete with alternative technologies targeting different sources of emissions. These competitors include electric vehicles, renewable power generation, and food technology. While we do not anticipate competing directly for market share with producers of these technologies, we expect to compete for wallet share from customers looking to reduce overall carbon emissions throughout their supply chain and operations. In the long-term, once adoption of various technologies has increased and customers no longer have to prioritize different methods of reducing overall carbon emission, we expect only to compete against other materials producers.

**Our Competitive Strengths**

We believe that our platform technology can replace petroleum as the foundational feedstock for the materials economy. Our competitive strengths include:

- ***Flexible platform enables drop-in solutions serving a large addressable market.*** We believe that our platform technology is well-positioned to address a substantial global market that is just beginning to transition from petroleum-based materials to sustainable materials. Many of our products are drop-in replacements for traditional petrochemicals, enabling our customers to use our products in their existing manufacturing processes to produce chemically and physically identical end products with little to no change in customer behavior.

- ***Abundant, low-cost and historically price-stable feedstock.*** Our platform technology can use timber and forest residues such as pine pulpwood, which is currently abundant and renewable, as its base-case feedstock. The feedstock for the pulp industry in North America is plentiful and the cost has historically been relatively low and stable, varying – according to the NC State University Extension Quarterly Price Report – from between $9.29 and $10.11 per ton between Q1 2015 and Q4 2020. The market for these feedstocks tends to be local due to relatively high transport costs, and therefore is insulated from typical commodity price volatility. Furthermore, our pulpwood feedstock does not compete for use as a food source, insulating our products from demand price pressures faced by other agricultural-based renewable feedstocks such as corn and sugarcane.

- ***Unit Economics.*** Our proprietary platform technology converts low-cost renewable feedstock into flexible chemical intermediates in a single catalytic reaction.

- ***Carbon Footprint.*** We believe our products can help enable prospective customers to achieve their net zero carbon emissions commitments by transitioning away from fossil-based materials towards materials made with our platform technology, which uses sustainable, non-food, plant-based feedstock. We estimate that a single commercial-scale Origin plant producing CMF and HTC can eliminate or avoid more than 1.3 million tons of emitted carbon dioxide annually.

- ***High Barriers to Entry.*** Over more than a decade, we have generated a robust patent portfolio as well as critical trade secrets. We believe our competitors now significantly lag behind us and will be unable to replicate the efficiency, yield and quality of our process, as we expect to continue to improve our existing technology and processes.

**Business Strategy**

Our goal is to build a commercially successful business that can scale and meet current and future expected demand for carbon negative materials. We plan to construct plants that can produce materials at a commercial scale and expect to continue to develop new products and applications, together with our platform partners, to maintain and increase its competitive advantage.

Key elements of our strategy include:

***Complete construction of Origin 1 and launch construction of Origin 2:***

- We are undertaking two significant initial capital projects: “Origin 1” and “Origin 2”. Our strategic intent for Origin 1 is to serve and develop longer term focus markets that require our customers to reformulate existing products and applications. At scale, Origin 2 is intended to focus on supplying products that serve our near-term markets of interest.

- Origin 1, our initial plant, is under construction in Sarnia, Ontario, Canada. As of December 31, 2021, we completed installation of most foundations for building and process areas at the construction site. As of December 31, 2021, we had also completed installation of the key production modules containing equipment used for the conversion of biomass feedstock into high value chemicals. We expect that interconnecting piping will be installed, all electrical work will be complete, and utilities and raw material handling equipment will be installed during 2022. We expect that construction of Origin 1 will be mechanically complete before the end of 2022, with commissioning and production at the plant beginning in 2023.

- As of December 31, 2021, Origin 2 is in the project development stage. During the first quarter of 2022, we announced the completion of certain milestones, such as owner's engineer selection and, subject to finalization of economic incentives, site selection. We expect the front-end engineering design package completed and construction and fabrication started by the middle of 2023. We expect that the construction of Origin 2 will be complete, and the plant operational in 2025.

***Sell-out contracted capacity in future plants years ahead of mechanical completion:***

- As of February 24, 2022, we had announced $5.6 billion in customer demand from customers in a diverse mix of industries, which demand is expected to be fulfilled by production from Origin 1, Origin 2, Origin 3 and Origin 4. These customers include Global Fortune 500 companies with long-term commitments to decarbonizing their supply chain and operations. We expect continued expanding demand from potential new customers and to continue contracting for new high margin products, including PEF. Because we believe that demand for our products will outpace supply for the foreseeable future, we expect that we will need to identify and prioritize sales to customers for applications that command the highest margins. Please see the section titled “Offtake Agreements” for additional information regarding our offtake agreements.

***Expand and develop new partnerships across the value chain:***

- Our strategy includes, among other things, working with upstream partners to identify suitable aging/defunct pulp mills, convert key equipment components, and integrate those components into a refurbished and repurposed chemical plant. We expect this to enable us to partner with the existing forest products supply chains and government entities concerned with forest management and potential local labor and economic benefits associated with repurposing the pulp mills. We plan to engage procurement and construction companies and enter into joint ventures for production, which would provide us with best-in-class capabilities to efficiently construct our plants. In addition, we expect to collaborate with partners who have the market knowledge and expertise to design compelling products and penetrate new markets. We believe that helping these partners build profitable new businesses and product lines using our cost-advantaged chemical intermediate platform enhances the value of our platform and promotes long-term committed customer relationships for an expanding and diversifying set of markets. We also intend to continue creating industry collaborations like the NaturALL Bottle Alliance and like our partner and customer relationships with Kolon Industries, Drive+, Alliance to End Plastic Waste, Ford Motor Company, Mitsubishi Gas Chemical, PrimaLoft, Solvay, and others, to commercialize decarbonizing solutions with the help of end users and brands. We intend to continue using demand from industry-leading brands to motivate and align the intermediate supply chain to meet carbon reduction commitments.

***Continue development of next-gen materials and applications:***

- Our strategy is to develop low and negative carbon materials for use in a variety of products, including textiles and fabrics, next generation packaging, paints, coatings, and epoxies, fillers for tires and other rubber products, fuels, and agricultural products.
- Our CMF near-term (2022-2025+) product focus is on low or negative carbon PET. In the medium term (2025-2027+), we will focus on improving PET polyester with the incorporation of furanic content to make "PETF" blended products, and in the longer term (2027+), we expect to focus on producing next generation high-performance polyesters with strong gas barrier and high heat resistance that can be fully recyclable with current technologies.
- Our HTC near-term (2022-2025+) product focus is on "drop-in" energy-dense solid fuels. In the medium term (2025-2027+), we will focus on carbon negative carcinogen-free carbon black replacement for tires and other rubber and polymer filled materials. In the longer term (2027+), we expect to focus on next generation agricultural products such as slow-release fertilizers as well as microbial and biologics delivery.

***Develop new revenue streams through technology licensing:***

- We have developed technologies to convert CMF and HTC into a variety of valuable end products, and expect to continue to develop these technologies. We expect, over time, to license this technology to relevant manufacturers of those end products while we supply the CMF and HTC to the licensees.

**Our Products**

The majority of our product output is comprised of versatile Furanic Intermediates. Depending on the specific feedstock, we may also produce several minority co-products, including levulinic acid, furfural, and various extractives.

***CMF—chloromethylfurfural:***

- CMF is an organic compound derived directly from cellulosic biomass through our patented process, consisting of furan substituted at the 2 and 5 positions with a formyl group and chloromethyl group. CMF is easily derivatized into multiple products including those for polyesters, nylons, epoxies, surfactants, and several others. At full commercial scale, our process is expected to be able to produce CMF with a carbon impact of –1.21 kg CO2 equivalent/kg CMF, according to a life cycle analysis by Deloitte SAS.

***HTC—hydrothermal carbon:***

- HTC is a carbonaceous composite consisting of furanic resin and lignin fragments. It is derived from ligno-cellulose through our patented process, and is a structured composite resin comprising furanic chemical groups that can be further functionalized or de-functionalized while retaining nano-scale morphology of the HTC. Via functionalization or de-functionalization, HTC may be further derivatized into products such as carbon black, activated carbon, as well as a variety of agricultural products. At full commercial scale, our process is expected to be able to produce HTC with a carbon impact of –1.67 kg CO2 equivalent/kg HTC, according to a life cycle analysis by Deloitte SAS.

**Customers**

We believe that our platform technology ideally positions Origin to address industry demand for carbon-negative and low-carbon materials. As of March 1, 2022, we had announced approximately $5.6 billion in contracted offtake agreements (including customer options, which may or may not be exercised) and capacity reservations. These agreements have terms ranging from 5-10 years and encompass production from one or more of Origin 1, Origin 2, Origin 3 and Origin 4. Our customers include Global Fortune 500 companies including Ford Motor Company and fellow NaturALL Bottle Alliance members Danone, Nestlé Waters, and PepsiCo, as well as Mitsubishi Gas Chemical, Packaging Equity Holdings, Kolon Industries, PrimaLoft, Solvay, Mitsui & Co., Ltd., Minafin Group, and others.

**Raw Materials Supply**

Our platform technology can produce building block chemicals from a variety of abundant, low-cost bio-feedstocks including wood residues and wood processing waste. Our process was designed to be able to take advantage of idled and aging pulp mills and may be co-located with such mills to secure access to existing site-specific feedstock supplies and skilled labor while lowering required capital investment. We believe we will be able to contract for the necessary quantity and quality of these or suitable alternative feedstocks needed to manufacture products. We expect our demand for wood residues and wood processing waste in 2030 represents less than 1% of the world's total supply of these feedstocks and less than 0.5% of the global supply of suitable alternative feedstocks that can be used in our process, such as agricultural wastes, mixed paper waste, and construction wastes.

**Offtake Agreements**

*Nestlé Waters Offtake Agreement*

In November 2016, we entered into an offtake agreement with Nestlé Waters. The agreement had a 5-year term to purchase a specified amount of product per year from the Origin 1 facility. The agreement required us to meet certain construction and product delivery milestones by specified dates and requires us to pay liquidated damages if the milestones were not achieved. For Origin 1, these milestones have been deferred to March 31, 2022 in order to facilitate the negotiation of an amendment to the agreement, including the milestone achievement dates. As of the date hereof, the negotiation is ongoing.

In addition to the above provisions, Nestlé may terminate the offtake agreement if: (i) we fail to meet agreed upon quality or quantity requirements; (ii) a force majeure continues for an extended period; (iii) any of certain designated parties directly acquires an equity interest in us; (iv) we fail to comply with mutually agreed sustainability principles; (v) either party takes steps to enter into liquidation or is subject to bankruptcy proceedings or enters into a deed of arrangement for the benefit of its creditors; or (vi) a bankruptcy event occurs with respect to a third party manufacturer that is critical to our supply chain, and we are unable to retain a substitute. If Nestlé terminates the offtake agreements, certain outstanding advance payments made to us by Nestlé and evidenced by a secured promissory note, as described below, become immediately due. In addition, upon any material breach of the offtake agreement by us, we have a specified amount of time, subject to modification by agreement with Nestlé, to cure the breach before Nestlé may terminate the agreement.

In November 2016, we received a $5.0 million prepayment from Nestlé Waters for product from Origin 1 pursuant to the offtake agreement. The prepayment will be credited against the purchase of products from Origin 1 over the term of the offtake agreement. Specifically, the prepayment will be repaid by applying a credit to product purchases each month over the operation of Origin 1 until a total of $7.5 million of credits have been applied. The prepayment is evidenced by a secured note that will be repaid in cash in the event the prepayment cannot be credited against the purchase of product because, for example, Origin 1 is never constructed. If repaid in cash, the note bears an annual interest rate of the three-month London Interbank Offered Rate (LIBOR) plus 0.25% (0.38% at December 31, 2021) and matures five years from the commercial operation date of Origin 1. Our outstanding obligation, together with accrued interest, under Nestlé Waters' promissory note totaled an aggregate of $5.2 million as of December 31, 2021.

*Danone Offtake Agreement*

In November 2016, we entered into an offtake agreement with Danone. The agreement has a 5-year term to purchase a specified amount of product per year from the Origin 1 facility. The agreement also includes an option exercisable by Danone to enter into an additional offtake agreement to purchase product from Origin 2 for a term of up to 10 years. This option has not yet been exercised. The agreement requires us to meet certain construction and product delivery milestones by specified dates and requires us to pay liquidated damages if the milestones are not achieved. For Origin 1, these milestones have been deferred to June 30, 2022 in order to facilitate the negotiation of an amendment to the agreement, including the milestone achievement dates. As of the date hereof, the negotiation is ongoing.

In addition to the above provisions, Danone may terminate the offtake agreement if: (i) we fail to meet the agreed upon quality or quantity requirements; (ii) a force majeure event continues for an extended period; (iii) any of certain designated parties directly acquires an equity interest in us; (iv) we fail to comply with mutually agreed sustainability principles; (v) the NaturALL Bottle Alliance agreement is terminated; (vi) a material adverse change has occurred prior to the first order placed under the agreement; (vii) either party takes steps to enter into liquidation, becomes subject to bankruptcy proceedings or a bankruptcy event occurs with respect to either party, or a third party manufacturer that is critical to our supply chain, and we are unable to retain a substitute; or (viii) an event of default as defined by in Danone’s promissory note occurs.

In November 2016, we received a $5.0 million prepayment from Danone for product from Origin 1 pursuant to the offtake agreement with Danone. The prepayment was to be credited against the purchase of products from Origin 1 over the term of the offtake agreement. The prepayment is evidenced by a secured note. In May 17, 2019, the Danone offtake agreement and secured note were amended to make Danone's prepayment repayable in three fixed cash installments, inclusive of interest. If Danone terminates the offtake agreement, the note becomes due immediately. Our outstanding obligation, together with accrued interest, under Danone’s promissory note totaled an aggregate of $5.7 million as of December 31, 2021. In addition, upon any material breach of the offtake agreement by us, we have a specified amount of time, subject to modification by agreement with Danone, to cure the breach before Danone may terminate the agreement.

*Pepsi Offtake Agreement*

In August 2018, we entered into an offtake agreement with Pepsi. The agreement has a 5-year term to purchase a specified amount of product per year from the Origin 1 facility, and an additional 5-year term to purchase a specified amount of product per year from Origin 2. Pepsi may terminate the agreement if commercial operation or delivery of product from Origin 1 has not occurred by December 31, 2022. Pepsi also may terminate the agreement if commercial operation of Origin 2 has not occurred by June 30, 2025, or if product from Origin 2 has not been delivered before September 30, 2025.

In addition to the above provisions, Pepsi may terminate the offtake agreement if: (i) we fail to meet agreed upon quality or quantity requirements; (ii) a force majeure event continues for an extended period; or (iii) a bankruptcy event occurs with respect to either party, or a third party manufacturer that is critical to our supply chain, and we are unable to retain a substitute. Also, upon our material breach of the offtake agreement, we have a specified amount of time, subject to modification by agreement with Pepsi, to cure the breach before Pepsi may terminate the agreement.

*Packaging Matters Offtake Agreement*

In December 2020, we entered into an offtake agreement with Packaging Matters, LLC (formerly known as Packaging Equity Holdings, LLC) (“Packaging Matters”). This agreement has a 10-year term and provides for the purchase of specified volumes of product per year from each of our first four plants, Origin 1 through Origin 4. Packaging Matters may terminate the agreement if we deliver notice to Packaging Matters that we have determined that it is reasonably likely that we will not fulfill certain conditions precedent to start-up of the Origin 1 facility by January 1, 2025.

In addition to the above provisions, either party may terminate the offtake agreement if a force majeure event continues for an extended period or if a bankruptcy event occurs with respect to the other party. Upon our material breach of the offtake agreement, we have a specified amount of time, subject to modification by agreement with Packaging Matters, to cure the breach before Packaging Matters may terminate the agreement.

**Research and Development**

Our strategy depends upon both continued improvement of our platform technology and development of new chemical pathways, next-generation materials and product applications, and our research and development efforts are focused on supporting these two objectives. We operate an in-house laboratory and pilot-scale manufacturing facilities in West Sacramento, California and Sarnia, Ontario, Canada to conduct research and development work. In addition, we conduct joint research and development work with third parties including academic institutions, vendors, and other partners such as members of the NaturALL Bottle Alliance.

**Intellectual Property**

Our patent portfolio is comprised of 19 patent families focused on the conversion of biomass to CMF and HTC. Origin intends to retain exclusive rights to commercially work its biomass to CMF and HTC pathways.

**Patents.** Our core technology—biomass to CMF and HTC—is protected with patents, trade secrets, and know-how. We have 25 patents directed to CMF. One U.S. and one Korean composition of matter patent expiring in 2034 are directed to crystalline forms of CMF. Fourteen patents are directed to compositions of and methods for preparing CMF. These include three in the United States, two in Korea, two in Malaysia, and one each in Brazil, China, India, and Mexico, which expire in 2032, as well as two patents in the United States and one in Brazil that expire in 2034. Nine patents are directed to methods and systems for purifying CMF. These include one patent in the United States and one in China, each expiring in 2033, and three patents in the United States and one each in Brazil, China, South Korea, and Europe that expire in 2034. We have seven pending applications directed to compositions and methods for preparing CMF. These include one in the United States that would expire in 2034, two in Malaysia that would expire in 2034, one in Malaysia that would expire in 2032, two in China that would expire in 2034, and one in Europe that would expire in 2034.

We also have eight patents directed to methods for preparing PX and terephthalic acid (PTA when purified). These include two patents in the United States and one each in China and Japan that expire in 2032, as well as three patents in the United States and one in Japan that expire in 2033.

We have five patents directed to dimethylfuran (“DMF”), a derivative of CMF, including three patents in the United States expiring in 2034 directed to methods of producing DMF and two patents in the United States expiring in 2035 directed to compositions of and methods for preparing DMF. We also have two pending patent applications directed to DMF. These include one each in Thailand and Europe that would expire in 2035.

We have two pending patent applications directed to furandicarboxylate-polymer compositions, including PEF, and methods for producing such compositions. These include one pending application in China that would expire 2036 and one pending application in the United States that would expire in 2037.

In addition, we have five patents directed to polyhydroxylalkanoate (“PHA”), a biodegradable plastic. These include one composition of matter patent in the United States and one in Malaysia, each expiring in 2031, that are directed to bacterial strains for producing PHA, two patents in the United States, and one in Malaysia expiring in 2033 directed to compositions and methods for converting PHA into PHA derivatives.

We have three patents directed to other derivatives of CMF. These include two U.S. patents expiring in 2035 and 2036, respectively, directed to methods of preparing chemical derivatives from CMF, and one U.S. patent expiring in 2035 directed to compositions for preparing CMF derivatives.

Finally, we have one pending patent application in the United States that would expire in 2036 and is directed to compositions and resins of activated carbon and methods for producing these.

**Trade secrets.** We maintain a secure digital vault of our trade secrets with heightened confidentiality protections. Access to this vault is limited to a select group and is granted on a need-to-know basis. Further, the information in the vault is left strategically incomplete and requires corroboration from referenced internal documents to ensure that the entirety of any trade secret is known only by someone who has access to each such document. Our employees are required to participate in invention assignment and non-disclosure protocols to further ensure the protection of our trade secrets.

**Know-how.** An important aspect of our intellectual property, in addition to our patent portfolio and trade-secrets, is the depth of understanding and proficiency we gained in the behavior of the Origin technology platform's chemical reactions, the handling of feedstocks, and the process-ability of feedstocks given certain conditions. This know-how into our process and materials is carefully captured in many ways, such as by being photographed, videoed, measured, quantified, summarized, compared, and otherwise described. Within this information set, we have identified many key insights without which we believe a would-be competitor could not successfully operate in our industry or replicate our results.

**Regulatory**

Regulation by government authorities in the United States, Canada and other countries is a significant factor in the production and sale of our products and our ongoing research and development activities. The chemicals and intermediates that we manufacture and use, including CMF and HTC, require (or as the products are further commercialized are anticipated to require) authorization or exemptions under the Toxic Substances Control Act (TSCA) administered by the U.S. Environmental Protection Agency (the EPA), the Canadian Environmental Protection Act (CEPA) administered by Health Canada and Environment and Climate Change Canada, and the European Union's regulation entitled the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). Our production processes are subject to regulations and permit requirements relating to air emissions, wastewater discharges, waste generation and disposal and other environmental matters. Additionally, some applications will involve food contact and will be regulated by the U.S. Food and Drug Administration (the FDA).

Chemical control regulations applicable to us, such as TSCA, CEPA or REACH, impose restrictions with respect to the permitted volumes of, or the sites at which, certain chemicals manufactured or used by us may be manufactured, imported, transported and/or released into the environment. For example, in the United States, the manufacture of CMF as a chemical intermediate currently is restricted to a quantity of 15,000 kilograms per year and the volume of a substance that may be used in some subsequent conversions of CMF is subject to import restrictions in Canada. In addition, the import into Canada of a certain polymer associated with the manufacture of CMF and HTC is limited to not more than 1,000 kilograms per year prior to submitting a New Substance Notification. Compliance with these regulations is complex and could require significant capital and/or operating expenses, and failure to comply with any of these regulations can have significant consequences. Our regulatory focus has been on seeking the removal or relaxation of certain restrictions to enable scaled up production. We have filed or will be filing notifications under TSCA and CEPA seeking to remove these restrictions, as necessary, and are working to identify alternatives that are not similarly restricted in the location where they are used.

**Employees and Human Capital Resources**

***Intentional Culture and Leadership.*** At Origin, our values inform our decision making and how we act. We are deliberate, open, and transparent about our dedication to our core purpose; to enable the world's transition to sustainable materials as the leading carbon negative materials company. We have assembled an exceptional team of world-class scientists, engineers, and business leaders to develop and execute our strategic plans.

***Diversity, Equity & Inclusion.*** We believe that having a diverse workforce, equitable employment practices, and an inclusive workplace better positions us to respond to the unique needs of all our stakeholders. In 2020, we created the Origin Committee on Diversity and Inclusion. This committee is responsible for ensuring that Origin policies, procedures, and practices are conducive to creating and maintaining a diverse and inclusive environment that is valuable for all stakeholders. In late 2021, we hired a leading DE&I consulting firm, to help us map out our DE&I strategy and operationalize our DE&I goals. Finally, we have recently hired our first-ever VP, Human Resources to further strengthen our DE&I leadership and develop our program into 2023 and beyond.

***Human Capital.*** As of December 31, 2021, we had approximately 80 employees located in the United States and 6 employees in Canada, all of whom were full-time employees. None of our employees is subject to a collective bargaining agreement and we believe we have a good relationship with our employees. Our ability to attract, retain and motivate exceptional employees is vital to our long-term competitive advantage. As such, our compensation practices, including long-term equity incentive plans, are designed to drive sustainable performance and align employee incentives with shareholder values.

***Supporting Our Employees through COVID-19.*** In response to the COVID-19 pandemic, we have established and enforced comprehensive policies in the areas of Infectious Disease Control and COVID-19 Vaccinations. Currently, our employees are required to be vaccinated against COVID-19 or receive a vaccination exemption and adhere to strict COVID-19 protocols when on-site at our locations. Our vaccinated employees, when on-site at our locations, are also required to adhere to rigorous guidelines to prevent the spread of infectious diseases. These guidelines are designed to meet or exceed those set by local, state, and federal authorities that are applicable to our employees and sites. In addition, we have established and expanded remote working arrangements and tools across our organization in an effort to reduce the threat of a COVID-19 outbreak. Our COVID-19 Task Force, composed of staff and management employees across all departments, meets regularly to evaluate our policies and guidelines.

**Corporate Information**

Artius Acquisition Inc. ("Artius") incorporated in the Cayman Islands on January 24, 2020 and formed for the purpose of effecting a merger, share exchange, asset acquisition, share purchase, reorganization or similar business combination with one or more businesses. On June 25, 2021, Zero Carbon Merger Sub Inc., a wholly-owned subsidiary of Artius merged with and into Micromidas, Inc. a Delaware corporation (now known as Origin Materials Operating, Inc.,“Legacy Origin”), with Legacy Origin surviving as a wholly-owned subsidiary of Artius (the "Business Combination"). In connection with the closing of the Business Combination, Artius changed its name to Origin Materials, Inc. Legacy Origin was incorporated in 2008 as a Delaware corporation. Our principal executive offices are located at 930 Riverside Parkway, Suite 10, West Sacramento, California 95605. Origin has the following wholly-owned Canadian subsidiaries:

- Origin Materials Canada Holding Limited;
- Origin Materials Canada Pioneer Limited;
- Origin Materials Canada Polyesters Limited; and
- Origin Materials Canada Research Limited.

We became a large accelerated filer on December 31, 2021 because our aggregate worldwide market value of the voting and non-voting common equity held by non-affiliates as of June 30, 2021, our most recently completed second fiscal quarter, was greater than $700 million. Prior to that, we were an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012. As an emerging growth company, we were eligible for exemptions from various reporting requirements applicable to other public companies that are not emerging growth companies, including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002 and reduced disclosure obligations regarding executive compensation. We can no longer avail ourselves of these exemptions.

**Additional Information**

Origin's annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports are available free of charge on the Company's website at https://investors.originmaterials.com as soon as reasonably practicable after such material is electronically filed with, or furnished to, the Securities and Exchange Commission.

## MANAGEMENT

### Directors and Executive Officers

The following sets forth certain information, as of December 31, 2021, concerning the persons who are our directors and executive officers as well as certain of our key employees.

| Name | Age | Position |
|---|---|---|
| ***Executive Officers*** | | |
| John Bissell | 36 | Co-Chief Executive Officer and Director |
| Rich Riley | 48 | Co-Chief Executive Officer and Director |
| Nate Whaley | 47 | Chief Financial Officer |
| Stephen Galowitz | 57 | Chief Commercial Officer |
| Joshua Lee | 45 | General Counsel |
| | | |
| ***Non-Employee Directors*** | | |
| Karen Richardson | 59 | Chair of the Board |
| Benno O. Dorer(1)(3) | 57 | Director |
| Charles Drucker(2)(3) | 58 | Director |
| Kathleen B. Fish(2)(3) | 64 | Director |
| William Harvey(1)(2) | 71 | Director |
| Boon Sim(1)(3) | 59 | Director |
| Pia Heidenmark Cook(1)(2) | 50 | Director |
| | | |
| ***Key Employees*** | | |
| Ryan Smith | 43 | Chief Technology Officer |
| Makoto Masuno | 46 | Vice President of R&D |
| Roman Wolff | 59 | Vice President of Engineering |

(1) Member of the Audit Committee.
(2) Member of the Nominating and Corporate Governance Committee.
(3) Member of the Compensation Committee.

### *Executive Officers*

**John Bissell** is our Co-Chief Executive Officer and a member of our board of directors since the Business Combination and previously served as Chief Executive Officer and Co-Chief Executive Officer of Legacy Origin, and a member of the Legacy Origin board of directors, from November 2008 to June 2021. Mr. Bissell was trained as a chemical engineer at UC Davis and has extensive experience in R&D, engineering, and business development in the chemical industry. He has been recognized by the US EPA, Forbes, and the University of California for his professional and technical contributions. Finally, he's raised over half a billion USD in capital, and took Origin Materials public in 2021.

**Rich Riley** is our Co-Chief Executive Officer and a member of our board of directors since the Business Combination and previously served as Co-Chief Executive Officer of Legacy Origin and a member of the Legacy Origin board of directors from October 2020 to June 2021. From April 2013 to January 2019, Mr. Riley was the Chief Executive Officer of Shazam Entertainment Ltd, a leading mobile music application that was acquired by Apple Inc. in 2018. Mr. Riley has served as an industry advisor to KKR & Co. L.P., a leading global investment firm, since 2013. Mr. Riley was an executive at Yahoo! Inc. from Jan 1999 to Sept. 2012 with roles including EVP, Americas and SVP & MD, EMEA Region. He joined Yahoo! when it acquired Log-Me-On.com, where he was the Co-Founder and Managing Member. Mr. Riley began his career as an investment banking analyst at Donaldson, Lufkin & Jenrette. Mr. Riley was a finalist for Ernst & Young’s Entrepreneur of the Year Award, Featured in Forbes 40 under 40 Ones to Watch and included three times in Billboard Magazine’s Power 100 list. Mr. Riley is a Trustee at St. Luke's school, a member of the advisory Board for the Entrepreneurship Department at the Wharton School and a member of the Executive Board of Boy Scouts of America, Connecticut Yankee Council. Mr. Riley received a B.S. in economics with concentrations in finance and entrepreneurial management from the Wharton School of the University of Pennsylvania.

**Nate Whaley** is our Chief Financial Officer and previously served as the Chief Financial Officer of Legacy Origin from September 2020 to June 2021. Mr. Whaley has extensive expertise in scaling companies across a wide range of highly visible, capital-intensive industries including both operations and project-delivery. Prior to joining Legacy Origin, Mr. Whaley operated Whaley Group, a private provider of CFO, corporate financial and asset management advisory services. His representative engagements included serving as Senior Vice President of Finance and Strategy of Mammoth Resorts, a Starwood Capital Group portfolio company, Strategic Advisor to the World Surf League, the developer of the man-made wave system technology at the Kelly Slater Wave Company, and Chief Financial Officer and Strategic Advisor to Stikwood, a private wood wall planking manufacturer. Prior to founding Whaley Group, Mr. Whaley served as Chief Financial Officer and President – Development of Kirkwood Capital Partners, the holding company of the operating businesses, real estate development and sales, and gas and electric utility companies at Kirkwood Mountain Resort in Lake Tahoe, California. Mr. Whaley received a B.S. in Civil & Environmental Engineering from the University of California, Davis and an MBA from the Graduate School of Management at the University of California, Davis.

**Stephen Galowitz** has served as Chief Commercial Officer of Legacy Origin since May 2014 and continues to serve as our Chief Commercial Officer after the Business Combination. As Chief Commercial Officer, Mr. Galowitz oversees the development of strategic relationships for commercialization of sustainable products using Origin Materials' technology. Mr. Galowitz formerly served as co-founder and Chief Development Officer at Broadrock Renewables, LLC, where he led electricity generating projects. Mr. Galowitz received a B.A. in Philosophy from the University of Pennsylvania, a B.S. in Finance from The Wharton School of the University of Pennsylvania and a J.D. from Harvard Law School.

**Joshua Lee** is our General Counsel and Secretary. Mr. Lee joined Legacy Origin as its Corporate Counsel in February 2018 and served as its General Counsel from December 2020 to June 2021. Mr. Lee has also served as Secretary of Legacy Origin since February 12, 2020. Prior to joining Legacy Origin, Mr. Lee was an attorney at Miller Barondess, LLP from September 2016 to February 2018, and at Irell & Manella LLP from August 2009 to September 2016. Mr. Lee received a B.A. in Economics and German from the University of Southern California, an M.A. in Economics from the University of Southern California, and a J.D. from Yale Law School.

***Non-Employee Directors***

**Karen Richardson** is a member and Chairperson of our board of directors and previously served on the board of directors of Artius from July 2020 to June 2021. Ms. Richardson has a breadth of experience in the technology services industry and currently serves as a non-executive director of BP plc, Exponent, Inc. and Doma. Ms. Richardson served as a director of Worldpay from 2018 until July 2019. Prior to this, Ms. Richardson was an independent non-executive director of Worldpay Group plc. Ms. Richardson also served as a non-executive director at BT Plc from 2011-2018. Prior to her time at Worldpay and BT, Ms. Richardson held a number of senior sales and marketing roles in technology companies, including her tenure as Chief Executive Officer at Epiphany Inc. between 2003 and 2006. Ms. Richardson has also served as an advisor to Silver Lake Partners and has served on a number of private company boards, including i2 Holdings, Ayasdi LLC, Hackerrank, Convercent, Inc., Virtuoz, and Hi5 Networks, Inc. We believe that Ms. Richardson is qualified to serve on our board of directors given her leadership experience in technologically complex organizations.

**Benno O. Dorer** has served as a member of our board of directors since June 2021. From November 2014 until September 2020, Mr. Dorer served as Chief Executive Officer of the Clorox Company and as Chairman of the Clorox Company from August 2016 until February 2021. Prior to his time at the Clorox Company, Mr. Dorer held various marketing and sales roles at The Procter & Gamble Company in Europe and the United States. Mr. Dorer had also previously served the Consumer Brands Association, the trade association for the consumer packaged goods industry, as Board Director and Vice Chairman until 2020. Mr. Dorer is currently a Senior Advisor to KKR &

Co. Inc. and a Board Director of VF Corporation and Wella Company. We believe that Mr. Dorer is qualified to serve on our board of directors given his extensive experience in the consumer and professional products industry.

**Charles Drucker** is a member of our board of directors and previously served as Executive Chairman of the Board of Directors of Artius from June 2020 to June 2021. Mr. Drucker has had a decades-long career in the financial services industry. Mr. Drucker was a member of the board of directors of Fidelity National Information Services, Inc. (“FIS”) and served as Vice Chairman until March 1, 2020. From January 2019 until its acquisition by FIS, he served as Executive Chairman and Chief Executive Officer of Worldpay, a leading global payments company, and also served as Worldpay’s Executive Chairman and Co-Chief Executive Officer from January 2018 to December 2018. From 2009 to 2017, Mr. Drucker was the Chief Executive Officer of Worldpay’s predecessor, Vantiv. Prior to joining Vantiv, Inc., Mr. Drucker served as Executive Vice President of Fifth Third Bancorp from June 2005 to June 2009. Prior to joining Fifth Third Bancorp, Mr. Drucker was with First Data Corporation and Wells Fargo. Mr. Drucker has also served on the board of directors of Donnelley Financial Solutions, Inc. since 2016. We believe that Mr. Drucker is qualified to serve on our board of directors because of his extensive senior management experience in the payments and technology industries, as well as his experience with deep financial services.

**Kathleen B. Fish** has served as a member of our board of directors since June 2021. From February 2014 until December 2020, Ms. Fish served as Chief Research, Development and Innovation Officer of Procter & Gamble. Prior to this, Ms. Fish served as vice president of the Global Fabric Care R&D organization at Procter & Gamble from January 2009 to January 2014, and as vice president of the Global Baby Care R&D organization at Procter & Gamble from November 2003 to November 2008. Ms. Fish joined Procter & Gamble in 1979 as part of its Product Development (R&D) organization. Ms. Fish is currently a member of the USA Swimming and Balchem Boards of Directors. Ms. Fish has been selected to serve on our board of directors due to her leadership experience in the consumer goods industry.

**William Harvey** is a member of our board of directors and previously served as a member of the Legacy Origin board of directors since June 2017 to June 2021. Mr. Harvey served from July 2009 to December 2016 as the President of DuPont Packaging & Industrial Polymers (P&IP), a global business unit of E. I. du Pont de Nemours & Company, Inc. Mr. Harvey became a member of the board of directors of Bridgestone Americas, Inc., the North American subsidiary of a Japanese multinational auto and truck parts manufacturer, in June 2017. Since March 2011, Mr. Harvey has served on the board of directors of Kennametal, Inc., a public supplier of tooling and industrial materials. In March 2020, Mr. Harvey joined the Management Board of Huber Engineered Woods LLC, a manufacturer and supplier of wood products and a wholly-owned subsidiary of J.M. Huber Corporation. Mr. Harvey received an MBA from the Darden School at the University of Virginia and a B.S. in Economics from Virginia Commonwealth University. We believe that Mr. Harvey’s broad experience as an executive and board member in the packaging and materials industries qualify him to serve as our director.

**Boon Sim** is a member of our board of directors and previously served as a director and Chief Executive Officer of Artius from February 4, 2020 to June 25, 2021. Mr. Sim also served as the Chief Financial Officer of Aritus from June 2020 until June 2021. Mr. Sim has been Managing Partner of Artius Capital Partners since September 2017. Prior to that position, Mr. Sim was Advisory Senior Director of Temasek, Singapore’s sovereign wealth fund, from April 2016 to December 2017, and President, Americas Group, Head of Markets Group and Head of Credit and Life Science Portfolio from June 2012 to April 2016. He was previously the Global Head of Mergers & Acquisitions at Credit Suisse. During his twenty-year career at Credit Suisse and its predecessor, The First Boston Corporation, Mr. Sim held several senior positions of increasing responsibility, including Head of M&A Americas and Co-head of Technology Group. Before joining The First Boston Corporation, Mr. Sim worked as a design engineer at Texas Instruments Inc., focusing on semiconductor design. Mr. Sim has also served on the board of directors of Canada Pension Plan Investment Board since 2020. We believe that Mr. Sim is qualified to serve on our board of directors given his significant financial investment experience.

**Pia Heidenmark Cook** has served as a member of our board of directors since June 2021. Ms. Cook has also served as Chief Sustainability Officer at Ingka Group (IKEA) from 2017 to August 2021. Prior to this position, she served as head of Sustainability in IKEA Retail & Expansion for the IKEA Group from 2011 to 2017 and as head of Communications for the IKEA Foundation from 2008 to 2011. Prior to joining IKEA in 2008, Ms. Cook served as

Vice President of Corporate Social Responsibility at the Rezidor Hotel Group from 2001 to 2008. Ms. Cook currently serves on the board of MAX Burgers AB, and the board of trustees of the Sustainable Hospitality Alliance, and has previously served as co-chair of The Retailers' Environmental Action Programme and as chairman of the tourism branch of the Prince of Wales Business Leaders Forum. Ms. Cook has received a Technical Licentiate degree and a M.Sc. in Environmental Management from the University of Lund, Sweden, and a M.Sc. in International Business Administration and Economics from Uppsala University, Sweden. She is currently undertaking an INSEAD training on non-executive board directorship. Ms. Cook has been selected to serve on the board of directors due to her extensive experience in sustainability and corporate social responsibility.

***Key Employees***

**Ryan Smith** is the co-founder of Legacy Origin and previously served as Chief Technology Officer and a member of the Legacy Origin board of directors since 2008 and continues to serve as our Chief Technology Officer after the Business Combination. Mr. Smith has deep expertise in intellectual property protection, chemical and materials technology strategy, business development, and new product development within the chemical industry. Mr. Smith received a B.S. in Chemical Engineering from the University of California, Davis.

**Makoto Masuno, Ph.D.** serves as our Vice President of R&D and has previously served as the Head of Research and Development at Legacy Origin from March 2011 to August 2020. Dr. Masuno has expertise in natural product biosynthesis and biomimetic synthesis, pathway development and optimization, and structure/property relationships which Dr. Masuno developed during his time as a professor in the chemistry department at Sacramento and Westmont colleges in California. Dr. Masuno was a significant contributor to the development of Legacy Origin's furanic platform process and scale-up to para-xylene production. Dr. Masuno currently has 14 publications, 4 pending patents, and 5 provisionally filed patent applications. Dr. Masuno is responsible for the overall research and development of our technology. Dr. Masuno has a Ph.D. in Organic Chemistry from UC Davis, and a B.S. in Chemistry from Westmont College.

**Roman Wolff** serves as our Vice President of Engineering and has previously served as the Vice President of Engineering at Legacy Origin since September 2020 and continues to serve as our Vice President of Engineering after the Business Combination. Mr. Wolff's focus has been primarily in the development, optimization, scale-up and commercialization of process technologies and products. At Merichem, Mr. Wolff led the development, scale-up and commercialization of seven different technologies. At Enhanced Biofuels, Mr. Wolff led the development, scale-up and commercialization of a disruptive biofuels technology. Mr. Wolff has implemented Stage Gate project management infrastructure at Merichem, Enhanced Biofuels and TETRA Technologies. Mr. Wolff holds an MS in Chemical Engineering and is responsible for the overall development of our plants from design to fabrication.

**Family Relationships**

There are no family relationships among any of our directors or executive officers.

**Corporate Governance**

***Composition of the Board of Directors***

Our business and affairs are organized under the direction of its board of directors. Karen Richardson serves as Chair of the Board. The primary responsibilities of our board of directors are to provide oversight, strategic guidance, counseling and direction to the management. The board of directors meets on a regular basis and additionally as required.

In accordance with the terms of our Certificate of Incorporation and Bylaws, the board of directors shall establish the authorized number of directors from time to time exclusively by resolution. The board of directors currently consists of nine members. In accordance with the Certificate of Incorporation, the board of directors will initially be divided into three classes with staggered three-year terms. At each annual meeting of stockholders prior to 2024, the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election. The directors elected at the 2024 annual meeting of stockholders will serve for a two-year term, and the directors elected at the 2025 annual meeting of stockholders will serve for a one-year term. Beginning at the 2026 annual meetings of stockholders, all of our directors will be elected for one-year terms expiring at the following annual meeting of stockholders. Our initial directors are divided among the three classes as follows:

- the Class I directors are William Harvey, Boon Sim and Pia Heidenmark Cook, and their terms will expire at the annual meeting of stockholders to be held in 2022;
- the Class II directors are Charles Drucker, Kathleen B. Fish and Rich Riley and their terms will expire at the annual meeting of stockholders to be held in 2023; and
- the Class III directors are John Bissell, Benno O. Dorer and Karen Richardson and their terms will expire at the annual meeting of stockholders to be held in 2024.

Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors.

The initial division of the board of directors into three classes with staggered three-year terms may delay or prevent a change of our management or a change in control.

***Director Independence***

As a result of our Common Stock being listed on Nasdaq we are required to comply with the applicable rules of such exchange in determining whether a director is independent. After to the consummation of this Business Combination, our board of directors undertook a review of the independence of the individuals named above and has determined that each of Messrs. Sim, Harvey, Drucker and Dorer and Mses. Fish, Richardson and Cook qualifies as “independent” as defined under the applicable Nasdaq rules. Messrs. Bissell and Riley are not deemed independent due to their positions as our Co-Chief Executive Officers.

***Role of the Board in Risk Oversight***

One of the key functions of the board of directors is informed oversight of our risk management process. The board of directors does not anticipate having a standing risk management committee, but rather anticipates administering this oversight function directly through our board of directors as a whole, as well as through various standing committees of the board of directors that address risks inherent in their respective areas of oversight. In particular, the board of directors is responsible for monitoring and assessing strategic risk exposure and our audit committee will have the responsibility to consider and discuss any major financial risk exposures and the steps our management will take to monitor and control such exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. The audit committee monitors compliance with legal and regulatory requirements. The compensation committee assesses and monitors whether our compensation plans, policies and programs comply with applicable legal and regulatory requirements.

***Committees of the Board of Directors***

The board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee. The composition and responsibilities of each of the committees of the board of directors are described below. Members serve on these committees until their resignation or until otherwise determined by the board of directors. The board of directors may establish other committees as it deems necessary or appropriate from time to time.

*Audit Committee*

The audit committee consists of Benno O. Dorer, Boon Sim, William Harvey and Pia Heidenmark Cook. Our board of directors has determined that each member of the audit committee satisfies the independence requirements under Nasdaq listing standards and Rule 10A-3(b)(1) of the Exchange Act. The chair of the audit committee is Benno O. Dorer. Our board of directors has determined that Benno O. Dorer is an “audit committee financial expert” within the meaning of SEC regulations. Each member of the audit committee can read and understand fundamental financial statements in accordance with applicable requirements. In arriving at these determinations, our board of directors has examined each audit committee member's scope of experience and the nature of their employment.

The primary purpose of the audit committee is to discharge the responsibilities of the board of directors with respect to our corporate accounting and financial reporting processes, systems of internal control and financial statement audits, and to oversee our independent registered public accounting firm. Specific responsibilities of the audit committee include:

- helping the board of directors oversee corporate accounting and financial reporting processes;
- managing the selection, engagement, qualifications, independence and performance of a qualified firm to serve as the independent registered public accounting firm to audit our consolidated 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, our 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 our internal quality control procedures, any material issues with such procedures, and
- any steps taken to deal with such issues when required by applicable law; and
- approving or, as permitted, pre-approving, audit and permissible non-audit services to be performed by the independent registered public accounting firm.

*Compensation Committee*

Our compensation committee consists of Charles Drucker, Boon Sim, Benno O. Dorer and Kathleen B. Fish. The chair of the compensation committee is Charles Drucker. Our board of directors has determined that each member of the compensation committee is independent under the Nasdaq listing standards and a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act.

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, directors and other senior management, as appropriate. Specific responsibilities of the compensation committee will include:

- reviewing and approving the compensation of the chief executive officers, other executive officers and senior management;
- reviewing and recommending to the board of directors the compensation of directors;
- administering the equity incentive plans and other benefit programs;
- reviewing, adopting, amending and terminating incentive compensation and equity plans, severance agreements, profit sharing 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.

*Nominating and Corporate Governance Committee*

Our nominating and corporate governance committee consists of William Harvey, Charles Drucker, Kathleen B. Fish and Pia Heidenmark Cook. The chair of the nominating and corporate governance committee is William Harvey. Our board of directors has determined that each member of the nominating and corporate governance committee is independent under the Nasdaq listing standards.

Specific responsibilities of the nominating and corporate governance committee include:

- identifying and evaluating candidates, including the nomination of incumbent directors for re-election and nominees recommended by stockholders, to serve on the board of directors;
- considering and making recommendations to the board of directors regarding the composition and chairmanship of the committees of the board of directors;
- developing and making recommendations to the board of directors regarding corporate governance guidelines and matters, including in relation to corporate social responsibility; and
- overseeing periodic evaluations of the performance of the board of directors, including its individual directors and committees.

**Code of Ethics**

We have a code of ethics that applies to all of our executive officers, directors and employees, including our co-principal executive officers, principal financial officer, principal accounting officer or controller or persons performing similar functions. The code of ethics is available on our website, http://www.originmaterials.com/investors. In addition, we post on our website all disclosures that are required by law or the listing standards of Nasdaq concerning any amendments to, or waivers from, any provision of the code. The reference to our website address does not constitute incorporation by reference of the information contained at or available through our website, and you should not consider it to be a part of this prospectus.

**Compensation Committee Interlocks and Insider Participation**

None of the members of the compensation committee has ever been an executive officer or employee of Atrius, Legacy Origin or Merger Sub. None of our executive officers currently serve, or has served during the last completed fiscal year, on the compensation committee or board of directors of any other entity that has one or more executive officers that serves as a member of our board of directors or compensation committee.

**Non-Employee Director Compensation**

During 2020, other than a stock option to purchase shares of Legacy Origin Common Stock granted to Mr. William Harvey as described below, no director received cash, equity or other non-equity compensation for service on Legacy Origin's or Artius' board of directors.

In October 2020, Legacy Origin's board of directors granted Mr. Harvey a stock option to purchase 150,000 shares of Legacy Origin Common Stock, of which 50,000 shares were fully vested and exercisable upon grant. 25,000 shares underlying this option vest on the one-year anniversary of the date Mr. Harvey accepts (verbally or in writing) the position of Chairman of Legacy Origin's board of directors and the remaining 75,000 shares underlying this option vest monthly in equal installments over three years, subject to Mr. Harvey's continued service at each vesting date. In connection with the Business Combination, (i) a total of 75,000 shares underlying this option were deemed to be vested and fully exercisable immediately prior to the closing of such transaction, and (ii) the remaining 75,000 shares underlying this option were automatically forfeited. The initial value of Mr. Harvey's option award is $1,089,423.80, which does not reflect amounts actually received by Mr. Harvey.

Instead, this amount reflects the grant date fair value of the option award, as computed in accordance with FASB ASC 718. As required by SEC rules, the amount shown excludes the impact of estimated forfeitures related to service-based vesting conditions. The stock option to purchase 75,000 shares of Legacy Origin Common Stock was converted into a stock option to purchase 158,734 shares of our Common Stock following the consummation of the Business Combination.

In connection with the consummation of the Business Combination, our board of directors adopted a non- employee director compensation policy, pursuant to which each non-employee director is entitled to a $50,000 annual cash retainer. In addition, the members of the Audit Committee, Compensation Committee, and Nominating and Corporate Governance Committee will be entitled to an annual cash retainer of $10,000, $5,000, and $5,000, respectively, with the chair of each such committee being entitled to an annual cash retainer of $20,000, $15,000, and $15,000, respectively. In addition to the cash compensation, each non-employee director will also receive a one-time initial grant of restricted stock units with a grant date value of $150,000, to vest in three equal installments on the first, second and third anniversary of the grant date, and an annual grant of restricted stock units with a grant date value of $130,000, with the chairperson of the board of directors to receive an additional annual grant of restricted stock units with a grant date value of $75,000, which annual awards will vest on the first anniversary of the grant date. Each restricted stock unit award described above is subject to the applicable director continuing to serve on our board of directors through the vesting date. In addition, each member of the board of directors is required to acquire and hold shares of our Common Stock with a fair market value of at least $250,000 by the later of the fifth anniversary of (i) the closing of the Business Combination and (ii) such director’s election to the board of directors.

**Limitation on Liability and Indemnification of Directors and Officers**

Our Certificate of Incorporation limits a directors’ liability to the fullest extent permitted under the DGCL. The DGCL provides that directors of a corporation will not be personally liable for monetary damages for breach of their fiduciary duties as directors, except for liability:

- for any transaction from which the director derives an improper personal benefit;
- for any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- for any unlawful payment of dividends or redemption of shares; or
- for any breach of a director’s duty of loyalty to the corporation or its stockholders.

If the DGCL is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of the directors will be eliminated or limited to the fullest extent permitted by the DGCL, as so amended.

Delaware law and the Bylaws provide that we will, in certain situations, indemnify our directors and officers and may indemnify other employees and other agents, to the fullest extent permitted by law. Any indemnified person is also entitled, subject to certain limitations, to advancement, direct payment, or reimbursement of reasonable expenses (including attorneys’ fees and disbursements) in advance of the final disposition of the proceeding.

In addition, we have entered into separate indemnification agreements with our directors and officers. These agreements, among other things, require us to indemnify our directors and officers for certain expenses, including attorneys’ fees, judgments, fines, and settlement amounts incurred by a director or officer in any action or proceeding arising out of their services as one of our directors or officers or any other company or enterprise to which the person provides services at our request.

We intend to maintain a directors’ and officers’ insurance policy pursuant to which our directors and officers are insured against liability for actions taken in their capacities as directors and officers. We believe these provisions in our Certificate of Incorporation and Bylaws and these indemnification agreements are necessary to attract and retain qualified persons as directors and officers. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers, or control persons, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

## EXECUTIVE COMPENSATION

**Origin Materials, Inc.**

*Upon the closing of the Business Combination, the executive officers of Legacy Origin became executive officers of Origin Materials, Inc.*

For the year ended December 31, 2021, Legacy Origin's named executive officers consisted of its co-principal executive officers and the next two most highly compensated executive officers:

- John Bissell, Origin's Co-Chief Executive Officer;
- Rich Riley, Origin's Co-Chief Executive Officer;
- Stephen Galowitz, Origin's Chief Commercial Officer; and
- Joshua Lee, Origin's General Counsel and Secretary.

**Summary Compensation Table**

The following table sets forth information concerning the compensation of Legacy Origin's named executive officers for the years ended December 31, 2021 and December 31, 2020, as applicable:

| Name and Principal Position | Year | Salary | Bonus | Option Awards[1] | Stock Awards[2] | All Other Compensation[3] | Total |
|---|---|---|---|---|---|---|---|
| John Bissell | 2021 | $ 190,000 | | | $ 2,212,497 | $ 20,723 | $ 2,423,220 |
| *Co-Chief Executive Officer* | 2020 | $ 190,000 | | $ 612,000 | | $ 64 | $ 802,064 |
| Rich Riley[4] | 2021 | $ 229,121 | $ 58,416 | | $ 1,837,500 | $ 844 | $ 2,125,881 |
| *Co-Chief Executive Officer* | 2020 | $ 56,667 | | $ 5,988,000 | | $ — | $ 6,044,667 |
| Stephen Galowitz | 2021 | $ 290,000 | | | $ 2,669,998 | $ 12,023 | $ 2,972,021 |
| *Chief Commercial Officer* | | | | | | | |
| Joshua Lee | 2021 | $ 211,827 | | | $ 959,373 | $ 9,899 | $ 1,181,099 |
| *General Counsel* | 2020 | $ 211,827 | | $ 304,920 | | $ 64 | $ 516,811 |

(1) Amounts reported in this column do not reflect the amounts actually received by Legacy Origin's named executive officers. Instead, these amounts reflect the aggregate grant date fair value of each option award granted to the named executive officers during 2020, as computed in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 718. As required by SEC rules, the amounts shown exclude the impact of estimated forfeitures related to service-based vesting conditions. Please see Note 3 to Legacy Origin's audited financial statements for the year ended December 31, 2021 included elsewhere in the prospectus/registration statement.

(2) Amounts reported represent the aggregate grant date fair value of RSUs granted to such named executive officers during the fiscal year ended December 31, 2021 and December 31, 2020 under the 2021 Plan and the 2011 Plan, as applicable, computed in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, or ASC Topic 718, excluding the effect of estimated forfeitures. The assumptions used in calculating the grant date fair value of the RSUs and stock options reported in this column are set forth in Note 3 – Stock-Based Compensation to our audited consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2021. Such grant date fair values do not take into account any estimated forfeitures related to service-based vesting conditions. These amounts do not necessarily correspond to the actual value recognized or that may be recognized by the directors." Please amend defined terms when you move over into the 10-K.

(3) Consists of amounts paid by the Company after the Business Combination and by Legacy Origin before the Business Combination for a phone and internet stipend and for health insurance, long-term disability insurance, and life insurance premiums on behalf of Messrs. Bissell, Riley, Galowitz, and Lee.

(4) Mr. Riley joined Legacy Origin as Co-Chief Executive Officer in October 2020.

## Outstanding Equity Awards as of December 31, 2021

The following table presents information regarding outstanding equity awards held by the Company's named executive officers as of December 31, 2021:

| | | | Option Awards | | | | Stock Awards | | |
|---|---|---|---|---|---|---|---|---|---|
| Name | Grant Date | Vesting Commencement Date | Number of Securities Underlying Unexercised Options (#) Exercisable | Number of Securities Underlying Unexercised Options (#) Unexercisable | Option Exercise Price | Option Expiration Date | Number of Shares or Units of Stock Have Not Vested (#) | | Market Value of Shares of Stock That Have Not Vested(7) |
| John Bissell | 6/15/2012 | 5/25/2012 | 357,565 | — | $ 0.28 | 6/14/2022 | | | |
| | 8/27/2015 | 3/25/2012 | 137,571 | — | $ 0.37 | 8/26/2025 | | | |
| | 10/28/2020 | 02/16/2021 | 533,527 | 1,371,299 (1) | $ 0.14 | 10/27/2030 | | | |
| | 11/10/2021 | | | | | | 51,020 | (5) | 374,997 |
| | 11/10/2021 | | | | | | 250,000 | (6) | 1,837,500 |
| Rich Riley | 10/28/2020 | 10/28/2020 | 1,018,553 | 1,521,218 (2) | $ 0.14 | 10/27/2030 | | | |
| | 10/28/2020 | N/A | — | — (3) | $ 0.14 | 10/27/2030 | | | |
| | 11/10/2021 | | | | | | 250,000 | (6) | 1,837,500 |
| Stephen Galowitz | 11/10/2021 | | | | | | 163,265 | (5) | 1,199,998 |
| | 11/10/2021 | | | | | | 200,000 | (6) | 1,470,000 |
| Joshua Lee | 4/9/2019 | 2/5/2018 | 16,931 | — (4) | $ 1.21 | 4/8/2029 | | | |
| | 11/23/2020 | 11/23/2020 | 88,892 | — (4) | $ 0.14 | 11/22/2030 | | | |
| | 11/10/2021 | | | | | | 68,027 | (5) | 499,998 |
| | 11/10/2021 | | | | | | 62,500 | (6) | 459,375 |

(1) 529,119 shares underlying this option vest in equal monthly amounts over a period of four years on the same day of the month as the vesting commencement date, such that 529,119 shares subject to this option will have vested as of the fourth anniversary of the vesting commencement date, subject to Mr. Bissell’s continued service at each vesting date. 423,294 shares underlying this option vested upon the completion of the Business Combination. 211,647 shares underlying this option vest when the VWAP (as defined in the Merger Agreement) of a share of common stock of Origin equals or exceeds $15.00 for 10 consecutive trading days during the three year period following the closing of the Business Combination, subject to Mr. Bissell’s continued service at the date such milestone is achieved. 317,471 shares underlying this option vest when the VWAP of a share of common stock of Origin equals or exceeds $25.00 for 10 consecutive trading days during the five year period following the closing of the Business Combination, subject to Mr. Bissell’s continued service at the date such milestone is achieved. 423,295 shares underlying this option vest when the VWAP of a share of common stock of Origin equals or exceeds $50.00 for 10 consecutive trading days during the five year period following the closing of the Business Combination, subject to Mr. Bissell’s continued service at the date such milestone is achieved.

(2) 1/48th of the shares underlying this option vest monthly, subject to Mr. Riley’s continued service at each vesting date. The shares underlying this option are subject to single and double trigger acceleration. 25% of the total shares subject to this option vested upon the completion of the Business Combination and 1/36th of the remaining shares subject to this option shall vest each month on the same day of the month as the closing date of the Business Combination (and if there is no corresponding day, on the last day of the month), such that all of the shares subject to this option will have vested as of the third anniversary of the closing date of the Business Combination, subject to Mr. Riley’s continued service at each vesting date. If Mr. Riley is terminated for any reason other than cause (as defined in the 2020 Plan), then 12.5% of the total number of shares subject to this option shall immediately vest as of the date of such termination. If there is a change in control (which, as defined in the 2020 Plan, would include the consummation of the Business Combination) and if, during the period of time commencing forty-five (45) days prior to the consummation of such change in control and ending on the first anniversary of the consummation of such change in control, (i) Mr. Riley’s services in all capacities as a service provider of Origin are involuntarily terminated without cause, or (ii) Mr. Riley resigns his service in all capacities as a service provider of Origin for good reason (as defined in the 2020 Plan), and in either case other than as a result of death or disability, and provided such termination constitutes a “separation from service” within the meaning of Treasury Regulation Section 1.409A-1(h), then, effective as of such separation, 100% of the then-unvested shares subject to this option as of such separation will become vested shares subject to this option.

(3) 423,294 shares underlying this option vested upon the completion of the Business Combination. 211,647 shares underlying this option vest when the VWAP of a share of common stock of Origin equals or exceeds $15.00 for 10 consecutive trading days during the three year period following the closing of the Business Combination, subject to Mr. Riley’s continued service at the date such milestone is achieved. 317,471 shares underlying this option vest when the VWAP of a share of common stock of Origin equals or exceeds $25.00 for 10 consecutive trading days during the five year period following the closing of the Business Combination, subject to Mr. Riley’s continued service at the date such milestone is achieved.

(4) The shares underlying this option vested upon the completion of the Business Combination.

(5) Reflects the grant of restricted stock units that vest ratably over three years on 6/24/2022, 6/24/2023, 6/24/2024, respectively.
(6) Reflects the grant of performance-based restricted stock units with vesting to be evaluated by our Compensation Committee at various points between 2022 and 2027 based on certain construction and production milestones as well as certain revenue and EBITDA metrics associated with our Origin 1 and Origin 2 plants, respectively. If these milestones and metrics are achieved during the applicable performance period, as determined by our Compensation Committee, the eligible awards will become vested. Eligible awards are subject to a multiplier if multiple milestones and metrics are achieved during the applicable performance periods. This multiplier is capped at 3 and is subject to downward reduction by straight line interpolation for partial achievement of revenue and EBITDA metrics.
(7) Represents the total fair value of the NEOs' restricted stock unit awards granted, calculated in accordance with FASB ASC Topic 718. For a discussion of the assumptions made in the valuation, please see Note 3 to the financial statements in the this prospectus.

**Employment Arrangements with Executive Officers**

Each of our named executive officers is an at-will employee. Each named executive officer other than John Bissell and Stephen Galowitz is currently party to an offer letter setting forth their terms of employment as of the date of the offer letter, including title, salary and severance provisions (if any), as set forth below. Please see the section titled *"Outstanding Equity Awards as of December 31, 2021"* for additional information regarding the equity awards held by such named executive officers.

**Employment Arrangements with Executive Officers**

Each of our named executive officers is an at-will employee. Each named executive officer other than John Bissell and Stephen Galowitz is currently party to an offer letter setting forth their terms of employment as of the date of the offer letter, including title, salary and severance provisions (if any), as set forth below. Please see the section titled *"Outstanding Equity Awards as of December 31, 2021"* for additional information regarding the equity awards held by such named executive officers.

***Rich Riley***

In October 2020, Legacy Origin entered into an offer letter with Rich Riley, its Co-Chief Executive Officer. For 2020, Mr. Riley's initial annual base salary was $58,240. In February 2021, Legacy Origin issued and sold convertible promissory notes with an aggregate principal amount of $10.0 million and an interest rate of 8% per annum (the "2021 Note Financing"). Pursuant to the terms of the employment agreement, upon the closing of the 2021 Note Financing, Mr. Riley became entitled to an annual base salary of $400,000 for 2021 and a one-time bonus in an amount equal to the difference between what Mr. Riley would have been paid from his start date through the closing date of the 2021 Note Financing had his annual base salary been $400,000 and what Mr. Riley had been paid over such period. During 2022, Mr. Riley will be entitled to receive an annual base salary of $400,000.

***Joshua Lee***

In January 2018, Legacy Origin entered into an offer letter with Joshua Lee, its General Counsel. During 2022, Mr. Lee will be entitled to receive an annual base salary of $210,000.

**Executive Compensation**

Our compensation committee oversees the compensation policies, plans and programs and review and determine compensation to be paid to executive officers, directors and other senior management, as appropriate. The compensation policies followed by us are intended to provide for compensation that is sufficient to attract, motivate and retain our executives and potential other individuals and to establish an appropriate relationship between executive compensation and the creation of stockholder value.

**Pension Benefits**

Our named executive officers did not participate in, or otherwise receive any benefits under, any pension or retirement plan sponsored by us during 2020 or 2021.

**Nonqualified Deferred Compensation**

Our Origin's named executive officers did not participate in, or earn any benefits under, any nonqualified deferred compensation plan sponsored by us during 2020 or 2021.

## Employee Benefit Plans

Equity-based compensation has been and will continue to be an important foundation in executive compensation packages as we believe it is important to maintain a strong link between executive incentives and the creation of stockholder value. We believe 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. The principal features of our equity incentive plans are summarized below. These summaries are qualified in their entirety by reference to the actual text of the plans, which are filed as exhibits to the registration statement of which this prospectus forms a part.

### *2021 Plan*

A summary description of the material features of the 2021 Equity Incentive Plan (the “2021 Plan”) is set forth below. Following the recommendation of the board of directors, our stockholders approved the 2021 Plan on June 23, 2021.

*Eligibility*. Any individual who is our employee or an employee of any of our affiliates, or any person who provides services to Origin or its affiliates, including consultants and members of the board of directors, is eligible to receive awards under the 2021 Plan at the discretion of the plan administrator.

*Awards*. The 2021 Plan provides for the grant of incentive stock options (“ISOs”), within the meaning of Section 422 of the Code to employees, including employees of any parent or subsidiary, and for the grant of nonstatutory stock options (“NSOs”), stock appreciation rights, restricted stock awards, restricted stock unit awards, performance awards and other forms of awards to employees, directors and consultants, including employees and consultants of our affiliates.

*Authorized Shares*. Initially, the maximum number of shares of our Common Stock that may be issued under the 2021 Plan will not exceed 18,467,109. In addition, the number of shares of our Common Stock reserved for issuance under the 2021 Plan will automatically increase on January 1 of each year, starting on January 1, 2022 and ending on (and including) January 1, 2031, in an amount equal to the lesser of (1) five percent (5%) of the fully-diluted shares of our Common Stock on December 31 of the preceding year (the “Evergreen Measurement Date”), (2) a lesser number of shares of our Common Stock determined by the board of directors prior to the date of the increase, or (3) a lesser number of shares of our Common Stock that would not result in the share reserve exceeding fifteen percent (15%) of the fully-diluted shares of our Common Stock as of the Evergreen Measurement Date. The maximum number of shares of our Common Stock that may be issued on the exercise of ISOs under the 2021 Plan shall not exceed 55,401,327.

The unused shares subject to stock awards granted under the 2021 Plan that expire, lapse or are terminated, exchanged for or settled in cash, surrendered, repurchased, canceled without having been fully exercised or forfeited, in any case, in a manner that results in us acquiring shares covered by the stock award at a price not greater than the price (as adjusted pursuant to the 2021 Plan) paid by the participant for such shares or not issuing any shares covered by the stock award, will, as applicable, become or again be available for stock award grants under the 2021 Plan. The following shares of Common Stock will not be added to the shares authorized for grant and will not be available for future grants of stock awards: (i) shares of Common Stock subject to a stock appreciation right that are not issued in connection with the stock settlement of the stock appreciation right on exercise thereof; and (ii) shares purchased on the open market with the cash proceeds from the exercise of options; and (iii) shares delivered to us by a participant to satisfy the exercise or purchase price of a stock award or to satisfy any applicable tax withholding obligation with respect to a stock award (including shares of Common Stock retained by us from the Award being exercised or purchased and/or creating the tax obligation).

*Non-Employee Director Compensation Limit*. The aggregate value of all compensation granted (with respect to equity-based awards, measured based on grant date value) or paid (with respect to cash-based awards) to any non-employee director with respect to any calendar year, including awards granted and cash fees paid to such non-employee director, will not exceed (1) $750,000 in total value or (2) if such non-employee director is first appointed or elected to the Board during such calendar year, $1,000,000 in total value, in each case, calculating the value of any equity awards based on the grant date fair value of such equity awards for financial reporting purposes and excluding distributions from a deferred compensation program.

*Plan Administration*. The board of directors, or a duly authorized committee thereof, will administer the 2021 Plan and is referred to as the “plan administrator” herein. The board of directors may also delegate to one or more of our officers the authority to (1) designate employees (other than officers) to receive specified stock awards and (2) determine the number of shares subject to such stock awards. Under the 2021 Plan, the board of directors has the authority to determine award recipients, grant dates, the numbers and types of stock awards to be granted, the applicable fair market value, and the provisions of each stock award, including the period of exercisability and the vesting schedule applicable to a stock award.

*Stock Options*. ISOs and NSOs are granted under stock option agreements adopted by the plan administrator. The plan administrator determines the exercise price for stock options, within the terms and conditions of the 2021 Plan, provided that the exercise price of a stock option generally cannot be less than 100% of the fair market value of a share of our Common Stock on the date of grant. Options granted under the 2021 Plan vest at the rate specified in the stock option agreement as determined by the plan administrator.

The plan administrator determines the term of stock options granted under the 2021 Plan, up to a maximum of 10 years. Unless the terms of an optionholder’s stock option agreement provide otherwise or as otherwise provided by the plan administrator, if an optionholder’s service relationship with us or any of our affiliates ceases for any reason other than disability, death, or cause, the optionholder may generally exercise any vested options for a period of three months following the cessation of service. This period may be extended in the event that exercise of the option is prohibited by applicable securities laws. Unless the terms of an optionholder’s stock option agreement provide otherwise or as otherwise provided by the plan administrator, if an optionholder’s service relationship with us or any of our affiliates ceases due to death or disability, or an optionholder dies within a certain period following cessation of service, the optionholder or a beneficiary may generally exercise any vested options for a period of 12 months following the date of death or disability. In the event of a termination for cause, options generally terminate upon the termination date. In no event may an option be exercised beyond the expiration of its term.

Acceptable consideration for the purchase of our Common Stock issued upon the exercise of a stock option will be determined by the plan administrator and may include (1) cash, check, bank draft or money order, (2) a broker-assisted cashless exercise, (3) the tender of shares of Common Stock previously owned by the optionholder, (4) a net exercise of the option if it is an NSO or (5) other legal consideration approved by the plan administrator.

Unless the plan administrator provides otherwise, options and stock appreciation rights generally are not transferable except by will or the laws of descent and distribution. Subject to approval of the plan administrator or a duly authorized officer, an option may be transferred pursuant to a domestic relations order.

*Tax Limitations on ISOs*. The aggregate fair market value, determined at the time of grant, of our Common Stock with respect to ISOs that are exercisable for the first time by an award holder during any calendar year under all of our stock plans may not exceed $100,000. Options or portions thereof that exceed such limit will generally be treated as NSOs. No ISO may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any of our parent or subsidiary corporations unless (1) the option exercise price is at least 110% of the fair market value of the stock subject to the option on the date of grant and (2) the term of the ISO does not exceed five years from the date of grant.

*Restricted Stock Unit Awards*. Restricted stock unit awards are granted under restricted stock unit award agreements adopted by the plan administrator. Restricted stock unit awards may be granted in consideration for any form of legal consideration that may be acceptable to the plan administrator and permissible under applicable law. A restricted stock unit award may be settled by cash, delivery of shares of our Common Stock, a combination of cash and shares of our Common Stock as determined by the plan administrator, or in any other form of consideration set forth in the restricted stock unit award agreement. Additionally, dividend equivalents may be credited in respect of shares covered by a restricted stock unit award. Except as otherwise provided in the applicable award agreement or by the plan administrator, restricted stock unit awards that have not vested will be forfeited once the participant’s continuous service ends for any reason.

*Restricted Stock Awards*. Restricted stock awards are granted under restricted stock award agreements adopted by the plan administrator. A restricted stock award may be awarded in consideration for cash, check, bank draft or money order, services to us, or any other form of legal consideration that may be acceptable to the plan administrator and permissible under applicable law. The plan administrator determines the terms and conditions of restricted stock awards, including vesting and forfeiture terms. If a participant's service relationship with us ends for any reason, we may receive any or all of the shares of our Common Stock held by the participant that have not vested as of the date the participant terminates service with us through a forfeiture condition or a repurchase right.

*Stock Appreciation Rights*. Stock appreciation rights are granted under stock appreciation right agreements adopted by the plan administrator. The plan administrator determines the strike price for a stock appreciation right, which generally cannot be less than 100% of the fair market value of our Common Stock on the date of grant. A stock appreciation right granted under the 2021 Plan vests at the rate specified in the stock appreciation right agreement as determined by the plan administrator. Stock appreciation rights may be settled in cash or shares of our Common Stock or in any other form of payment, as determined by the plan administrator and specified in the stock appreciation right agreement.

The plan administrator determines the term of stock appreciation rights granted under the 2021 Plan, up to a maximum of 10 years. Unless the terms of a participant's stock appreciation rights agreement provide otherwise or as otherwise provided by the plan administrator, if a participant's service relationship with us or any of our affiliates ceases for any reason other than cause, disability, or death, the participant may generally exercise any vested stock appreciation right for a period of three months following the cessation of service. This period may be further extended in the event that exercise of the stock appreciation right following such a termination of service is prohibited by applicable securities laws. Unless the terms of a participant's stock appreciation rights agreement provide otherwise or as otherwise provided by the plan administrator, if a participant's service relationship with us or any of our affiliates, ceases due to disability or death, or a participant dies within a certain period following cessation of service, the participant or a beneficiary may generally exercise any vested stock appreciation right for a period of 12 months in the event of disability and 18 months in the event of death. In the event of a termination for cause, stock appreciation rights generally terminate immediately upon the occurrence of the event giving rise to the termination of the individual for cause. In no event may a stock appreciation right be exercised beyond the expiration of its term.

*Performance Awards*. The 2021 Plan permits the grant of performance awards that may be settled in stock, cash or other property. Performance awards may be structured so that the stock or cash will be issued or paid only following the achievement of certain pre-established performance goals during a designated performance period. Performance awards that are settled in cash or other property are not required to be valued in whole or in part by reference to, or otherwise based on, our Common Stock.

*Other Stock Awards*. The plan administrator may grant other awards based in whole or in part by reference to our Common Stock. The plan administrator will set the number of shares under the stock award (or cash equivalent) and all other terms and conditions of such awards.

*Changes to Capital Structure*. In the event there is a specified type of change in our capital structure, such as a stock split, reverse stock split, or recapitalization, appropriate adjustments will be made to (1) the class and maximum number of shares reserved for issuance under the Plan, (2) the class of shares by which the share reserve may increase automatically each year, (3) the class and maximum number of shares that may be issued on the exercise of ISOs and (4) the class and number of shares and exercise price, strike price, or purchase price, if applicable, of all outstanding stock awards.

*Corporate Transactions*. The following applies to stock awards under the 2021 Plan in the event of a corporate transaction (as defined in the 2021 Plan), unless otherwise provided in a participant's stock award agreement or other written agreement with us or one of our affiliates or unless otherwise expressly provided by the plan administrator at the time of grant.

In the event of a corporate transaction, any stock awards outstanding under the 2021 Plan may be assumed, continued or substituted for by any surviving or acquiring corporation (or its parent company), and any reacquisition or repurchase rights held by us with respect to the stock award may be assigned to our successor (or its parent company). If the surviving or acquiring corporation (or its parent company) does not assume, continue or substitute for such stock awards, then (i) with respect to any such stock awards that are held by participants whose continuous service has not terminated prior to the effective time of the corporate transaction, or current participants, the vesting (and exercisability, if applicable) of such stock awards will be accelerated in full (or, in the case of performance awards with multiple vesting levels depending on the level of performance, vesting will accelerate at 100% of the target level) to a date prior to the effective time of the corporate transaction (contingent upon the effectiveness of the corporate transaction), and such stock awards will terminate if not exercised (if applicable) at or prior to the effective time of the corporate transaction, and any reacquisition or repurchase rights held by us with respect to such stock awards will lapse (contingent upon the effectiveness of the corporate transaction), and (ii) any such stock awards that are held by persons other than current participants will terminate if not exercised (if applicable) prior to the effective time of the corporate transaction, except that any reacquisition or repurchase rights held by us with respect to such stock awards will not terminate and may continue to be exercised notwithstanding the corporate transaction.

In the event a stock award will terminate if not exercised prior to the effective time of a corporate transaction, the plan administrator may provide, in its sole discretion, that the holder of such stock award may not exercise such stock award but instead will receive a payment equal in value to the excess (if any) of (i) the per share amount payable to holders of our Common Stock in connection with the corporate transaction, over (ii) any per share exercise price payable by such holder, if applicable.

*Plan Amendment or Termination*. The board of directors has the authority to amend, suspend, or terminate the 2021 Plan at any time, provided that such action does not materially impair the existing rights of any participant without such participant's written consent. Certain material amendments also require approval of our stockholders. No ISOs may be granted after the tenth anniversary of the date when the Artius board of directors adopted the 2021 Plan. No stock awards may be granted under the 2021 Plan while it is suspended or after it is terminated.

***Employee Stock Purchase Plan***

A summary description of the material features of the employee stock purchase plan (the "ESPP") is set forth below. Following the recommendation of the board of directors, our stockholders approved the ESPP on June 23, 2021.

*Purpose*. The purpose of the ESPP is to provide a means by which our eligible employees and certain designated companies may be given an opportunity to purchase shares of our Common Stock, to assist us in retaining the services of eligible employees, to secure and retain the services of new employees and to provide incentives for such persons to exert maximum efforts for our success. The ESPP includes two components: a 423 Component and a Non-423 Component. We intend 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 the board of directors, the Non-423 Component will operate and be administered in the same manner as the 423 Component.

*Share Reserve*. Initially, the maximum number of shares of our Common Stock that may be issued under the ESPP after it becomes effective will not exceed 1,846,710. Additionally, the number of shares of our Common Stock reserved for issuance under the ESPP will automatically increase on January 1st of each year, beginning on January 1, 2022 and continuing through and including January 1, 2031, by the lesser of (1) one percent (1%) of the fully-diluted shares of our Common Stock on December 31st of the preceding calendar year, (2) the number of shares of our Common Stock equal to two hundred percent (200%) of the ESPP's initial share reserve, or (3) such lesser number of shares as determined by our board of directors. Shares subject to purchase rights granted under the ESPP that terminate without having been exercised in full will not reduce the number of shares available for issuance under the ESPP.

*Administration*. The board of directors, or a duly authorized committee thereof, will administer the ESPP.

*Limitations*. Our employees and the employees of any of our designated affiliates, as designated by the board of directors, will be eligible to participate in the ESPP, provided they may have to satisfy one or more of the following service requirements before participating in the ESPP, as determined by the administrator: (1) customary employment with us or one of our affiliates for more than 20 hours per week and five or more months per calendar year or (2) continuous employment with us or one of our affiliates for a minimum period of time, not to exceed two years, prior to the first date of an offering. In addition, the board of directors may also exclude from participation in the ESPP or any offering, employees who are "highly compensated employees" (within the meaning of Section 423(b)(4)(D) of the Code) or a subset of such highly compensated employees. All of our employees and employees of our related corporations are currently eligible to participate in the ESPP. An employee may not be granted rights to purchase stock under the ESPP (a) if such employee immediately after the grant would own stock possessing 5% or more of the total combined voting power or value of all classes of our stock or (b) to the extent that such rights would accrue at a rate that exceeds $25,000 worth of our stock for each calendar year that the rights remain outstanding.

The ESPP is intended to qualify as an employee stock purchase plan under Section 423 of the Code. The administrator may specify offerings with a duration of not more than 27 months, and may specify one or more shorter purchase periods within each offering. Each offering will have one or more purchase dates on which shares of our Common Stock will be purchased for the employees who are participating in the offering. The administrator, in its discretion, will determine the terms of offerings under the ESPP. The administrator has the discretion to structure an offering so that if the fair market value of a share of our Common Stock on any purchase date during the offering period is less than or equal to the fair market value of a share of our Common Stock on the first day of the offering period, then that offering will terminate immediately, and the participants in such terminated offering will be automatically enrolled in a new offering that begins immediately after such purchase date.

A participant may not transfer purchase rights under the ESPP other than by will, the laws of descent and distribution, or as otherwise provided under the ESPP.

*Payroll Deductions*. The ESPP permits participants to purchase shares of our Common Stock through payroll deductions. Unless otherwise determined by the administrator, the purchase price of the shares will be 85% of the lower of the fair market value of our Common Stock on the first day of an offering or on the date of purchase. Participants may end their participation at any time during an offering and will be paid their accrued contributions that have not yet been used to purchase shares, without interest. Participation ends automatically upon termination of employment with us and our related corporations.

*Withdrawal.* Participants may withdraw from an offering by delivering a withdrawal form to us and terminating their contributions. Such withdrawal may be elected at any time prior to the end of an offering, except as otherwise provided by the Plan Administrator. Upon such withdrawal, we will distribute to the employee his or her accumulated but unused contributions without interest, and such employee's right to participate in that offering will terminate. However, an employee's withdrawal from an offering does not affect such employee's eligibility to participate in any other offerings under the ESPP.

*Termination of Employment.* A participant's rights under any offering under the ESPP will terminate immediately if the participant either (i) is no longer employed by us or any of our parent or subsidiary companies (subject to any post-employment participation period required by law) or (ii) is otherwise no longer eligible to participate. In such event, we will distribute to the participant his or her accumulated but unused contributions, without interest.

*Corporate Transactions*. In the event of certain specified significant corporate transactions, such as a merger or change in control, a successor corporation may assume, continue, or substitute each outstanding purchase right. If the successor corporation does not assume, continue, or substitute for the outstanding purchase rights, the offering in progress will be shortened and a new purchase date will be set. The participants' purchase rights will be exercised on the new purchase date and such purchase rights will terminate immediately thereafter.

*Amendment and Termination*. The board of directors has the authority to amend, suspend, or terminate the ESPP, at any time and for any reason, provided certain types of amendments will require the approval of our stockholders. Any benefits, privileges, entitlements and obligations under any outstanding purchase rights granted before an amendment, suspension or termination of the ESPP will not be materially impaired by any such amendment, suspension or termination except (i) with the consent of the person to whom such purchase rights were granted, (ii) as necessary to facilitate compliance with any laws, listing requirements, or governmental regulations, or (iii) as necessary to obtain or maintain favorable tax, listing, or regulatory treatment. The ESPP will remain in effect until terminated by the board of directors in accordance with the terms of the ESPP.

***2020 Plan***

Legacy Origin's board of directors adopted the 2020 Plan (the "2020 Plan") in October 2020 and its stockholders approved the 2020 Plan in December 2020. Following the Closing of the Business Combination, no new awards will be granted under the 2020 Plan.

*Stock Awards*. The 2020 Plan provides for the grant of incentive stock options ("ISOs"), nonstatutory stock options ("NSOs"), stock appreciation rights, restricted stock awards, restricted stock unit awards and other stock awards, or collectively, stock awards. ISOs may be granted only to Origin's employees and the employees of Origin's affiliates. All other awards may be granted to Origin's employees, non-employee directors and consultants and the employees and consultants of Origin's affiliates. Legacy Origin has granted stock options and restricted stock awards under the 2020 Plan.

*Share Reserve*. Subject to certain capitalization adjustments, the aggregate number of shares of Origin's common stock that may be issued pursuant to stock awards under the 2020 Plan is 4,173,924 shares.

If a stock award granted under the 2020 Plan expires or otherwise terminates without being exercised in full, or is settled in cash, the shares of Origin's common stock not acquired pursuant to the stock award again will become available for subsequent issuance under the 2020 Plan. In addition, the following types of shares of Origin's common stock under the 2020 Plan may become available for the grant of new stock awards under the 2020 Plan: (1) shares that are forfeited to or repurchased by us prior to becoming fully vested; (2) shares withheld to satisfy income or employment withholding taxes; or (3) shares used to pay the exercise or purchase price of a stock award.

*Administration*. Origin's board of directors, or a duly authorized committee thereof, has the authority to administer the 2020 Plan. Origin's board of directors may also delegate to one or more of Origin's officers the authority to (1) designate employees (other than other officers) to be recipients of certain stock awards, and (2) determine the number of shares of common stock to be subject to such stock awards. Subject to the terms of the 2020 Plan, the plan administrator determines the award recipients, dates of grant, the numbers and types of stock awards to be granted and the applicable fair market value and the provisions of the stock awards, including the period of their exercisability, the vesting schedule applicable to a stock award and any repurchase rights that may apply.

The plan administrator has the authority to modify outstanding awards, including reducing the exercise, purchase or strike price of any outstanding stock award, canceling any outstanding stock award in exchange for new stock awards, cash or other consideration or taking any other action that is treated as a repricing under generally accepted accounting principles, with the consent of any adversely affected participant.

*Stock Options*. ISOs and NSOs are granted pursuant to stock option agreements adopted by the plan administrator. The plan administrator determines the exercise price for a stock option, provided that the exercise price of a stock option generally cannot be less than 100% of the fair market value of Origin's common stock on the date of grant. Options granted under the 2020 Plan vest at the rate specified by the plan administrator.

The plan administrator determines the term of stock options granted under the 2020 Plan, up to a maximum of ten years. Unless the terms of an optionholder's stock option agreement provide otherwise, if an optionholder's service relationship with us, or any of Origin's affiliates, ceases for any reason other than disability, death or cause, the optionholder may generally exercise any vested options for a period of three months following the cessation of service. The option term may be extended in the event that the exercise of the option following such a termination of service is prohibited by applicable securities laws or Origin's insider trading policy. If an optionholder's service relationship with us or any of Origin's affiliates ceases due to disability or death, or an optionholder dies within a certain period following cessation of service, the optionholder or a beneficiary may generally exercise any vested options for a period of 12 months in the event of disability and 18 months in the event of death. In the event of a termination for cause, options generally terminate immediately upon the termination of the individual for cause. In no event may an option be exercised beyond the expiration of its term.

Acceptable consideration for the purchase of common stock issued upon the exercise of a stock option will be determined by the plan administrator and may include (1) cash, check, bank draft, electronic funds transfer or money order, (2) a broker-assisted cashless exercise, (3) the tender of shares of Origin's common stock previously owned by the optionholder, (4) a net exercise of the option if it is an NSO, (5) deferred payment or a similar arrangement with the optionholder and (6) other legal consideration approved by the plan administrator.

*Tax Limitations on Incentive Stock Options*. The aggregate fair market value, determined at the time of grant, of Origin's common stock with respect to ISOs that are exercisable for the first time by an optionholder during any calendar year under all of Origin's stock plans may not exceed $100,000. Options or portions thereof that exceed such limit will generally be treated as NSOs. No ISO may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of Origin's total combined voting power or that of any of Origin's affiliates unless (1) the option exercise price is at least 110% of the fair market value of the stock subject to the option on the date of grant and (2) the term of the ISO does not exceed five years from the date of grant.

*Incentive Stock Option Limit*. The maximum number of shares of Origin's common stock that may be issued upon the exercise of ISOs under the 2020 Plan is 12,521,772.

*Restricted Stock Awards*. Restricted stock awards are granted pursuant to restricted stock award agreements adopted by the plan administrator. Restricted stock awards may be granted in consideration for (1) cash, check, bank draft or money order, (2) services rendered to us or Origin's affiliates or (3) any other form of legal consideration. Common stock acquired under a restricted stock award may, but need not, be subject to a share repurchase option in Origin's favor in accordance with a vesting schedule to be determined by the plan administrator. A restricted stock award may be transferred only upon such terms and conditions as set by the plan administrator. Except as otherwise provided in the applicable award agreement, restricted stock awards that have not vested may be forfeited or repurchased by us upon the participant's cessation of continuous service for any reason.

*Restricted Stock Unit Awards*. Restricted stock unit awards are granted pursuant to restricted stock unit award agreements adopted by the plan administrator. Restricted stock unit awards may be granted in consideration for any form of legal consideration. A restricted stock unit award may be settled by cash, delivery of stock, a combination of cash and stock as deemed appropriate by the plan administrator or in any other form of consideration set forth in the restricted stock unit award agreement. Additionally, dividend equivalents may be credited in respect of shares covered by a restricted stock unit award. Except as otherwise provided in the applicable award agreement, restricted stock units that have not vested will be forfeited upon the participant's cessation of continuous service for any reason.

*Stock Appreciation Rights*. Stock appreciation rights are granted pursuant to stock appreciation grant agreements adopted by the plan administrator. The plan administrator determines the strike price for a stock appreciation right, which generally cannot be less than 100% of the fair market value of Origin's common stock on the date of grant. Upon the exercise of a stock appreciation right, we will pay the participant an amount equal to the product of (1) the excess of the per share fair market value of Origin's common stock on the date of exercise over the strike price, multiplied by (2) the number of shares of common stock with respect to which the stock appreciation right is exercised. A stock appreciation right granted under the 2020 Plan vests at the rate specified in the stock appreciation right agreement as determined by the plan administrator.

The plan administrator determines the term of stock appreciation rights granted under the 2020 Plan, up to a maximum of ten years. Unless the terms of a participant's stock appreciation right agreement provide otherwise, if a participant's service relationship with us or any of Origin's affiliates ceases for any reason other than cause, disability or death, the participant may generally exercise any vested stock appreciation right for a period of three months following the cessation of service. The stock appreciation right term may be further extended in the event that exercise of the stock appreciation right following such a termination of service is prohibited by applicable securities laws. If a participant's service relationship with us, or any of Origin's affiliates, ceases due to disability or death, or a participant dies within a certain period following cessation of service, the participant or a beneficiary may generally exercise any vested stock appreciation right for a period of 12 months in the event of disability and 18 months in the event of death. In the event of a termination for cause, stock appreciation rights generally terminate immediately upon the occurrence of the event giving rise to the termination of the individual for cause. In no event may a stock appreciation right be exercised beyond the expiration of its term.

*Other Stock Awards*. The plan administrator may grant other awards based in whole or in part by reference to Origin's common stock. The plan administrator will set the number of shares under the stock award and all other terms and conditions of such awards.

*Changes to Capital Structure*. In the event that there is a specified type of change in Origin's capital structure, such as a stock split or recapitalization, appropriate adjustments will be made to (1) the class and maximum number of shares reserved for issuance under the 2020 Plan, (2) the class and maximum number of shares that may be issued upon the exercise of ISOs and (3) the class and number of shares and price per share of stock subject to outstanding stock awards.

*Corporate Transactions.* The 2020 Plan provides that in the event of certain specified significant corporate transactions, unless otherwise provided in an award agreement or other written agreement between us and the award holder, the administrator may take one or more of the following actions with respect to such stock awards: (1) arrange for the assumption, continuation or substitution of a stock award by a successor corporation, (2) arrange for the assignment of any reacquisition or repurchase rights held by us to a successor corporation, (3) accelerate the vesting, in whole or in part, of the stock award and provide for its termination prior to the transaction, (4) arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by us, (5) cancel or arrange for the cancellation of the stock award prior to the transaction in exchange for a cash payment, or no payment, as determined by the board of directors or (6) make a payment, in the form determined by the board of directors, equal to the excess, if any, of the per share amount (or value of property per share) payable to holders of Origin's common stock in connection with the transaction over the per share exercise price under the applicable stock award, multiplied by the number of shares subject to the stock award. Any escrow, holdback, earnout or similar provisions in the definitive agreement for the transaction may apply to such payment to the same extent and in the same manner as the provisions apply to holders of Origin's common stock. The plan administrator is not obligated to treat all stock awards, even those that are of the same type, in the same manner, and the plan administrator may take different actions with respect to the vested and unvested portions of a stock award.

Under the 2020 Plan, a significant corporate transaction is generally the consummation of (1) a sale or other disposition of all or substantially all of Origin's consolidated assets, (2) a sale or other disposition of more than 50% of Origin's outstanding securities, (3) a merger, consolidation or similar transaction following which we are not the surviving corporation or (4) a merger, consolidation or similar transaction following which we are the surviving corporation but the shares of Origin's common stock outstanding immediately prior to such transaction are converted or exchanged into other property by virtue of the transaction.

*Change in Control*. In the event of a change in control, awards granted under the 2020 Plan will not receive automatic acceleration of vesting and exercisability, although this treatment may be provided for in a stock award agreement. Under the 2020 Plan, a change in control is generally (1) the acquisition by a person or entity of more than 50% of Origin's combined voting power other than by merger, consolidation or similar transaction; (2) a consummated merger, consolidation or similar transaction immediately after which Origin's stockholders cease to own more than 50% of the combined voting power of the surviving entity or (3) a consummated sale, lease or exclusive license or other disposition of all or substantially all of Origin's consolidated assets other than to an entity more than 50% of the combined voting power of which is owned by Origin's stockholders.

*Transferability*. A participant generally may not transfer stock awards under the 2020 Plan other than by will, the laws of descent and distribution or as otherwise provided under the 2020 Plan.

*Amendment and Termination*. Origin's board of directors has the authority to amend, suspend or terminate the 2020 Plan, provided that, with certain exceptions, such action does not materially impair the existing rights of any participant without such participant's written consent. Certain material amendments also require the approval of Origin's stockholders. No ISOs may be granted after the tenth anniversary of the date Origin's board of directors adopted the 2020 Plan.

***2010 Stock Incentive Plan***

Legacy Origin's board of directors adopted the Micromidas, Inc. 2010 Stock Incentive Plan (the "2010 Plan") in March 2010 and Legacy Origin's stockholders also approved the 2010 Plan in March 2010. The 2010 Plan terminated by its own terms at the conclusion of its ten-year term in March 2020, but awards granted pursuant to the 2010 Plan continue to be governed by its terms.

The 2010 Plan provided for the grant of ISOs, NSOs, stock appreciation rights, restricted stock awards, restricted stock unit awards, dividend equivalent rights and other stock awards, or collectively, stock awards. The 2010 Plan provides that ISOs may be granted only to Legacy Origin's employees and the employees of Legacy Origin's affiliates. The 2010 provides that all other awards may be granted to Legacy Origin's employees, non-employee directors and consultants and the employees and consultants of Legacy Origin's affiliates. Legacy Origin has granted options under the 2010 Plan.

*Share Reserve*. Subject to certain capitalization adjustments, the aggregate number of shares of Origin's common stock reserved for issuance under the 2010 Plan is 992,352 shares, which represents the number of shares of Origin's common stock subject to awards that remain outstanding under the 2010 Plan.

*Administration*. Origin's board of directors, or a duly authorized committee thereof, has the authority to administer the 2010 Plan. The 2010 Plan authorizes the plan administrator to determine the award recipients, dates of grant, forms of award agreements, the numbers and types of stock awards granted and the applicable fair market value and the provisions of the stock awards, including the period of their exercisability, the vesting schedule applicable to a stock award, any repurchase rights that may apply and any other additional terms, conditions rules or procedures to accommodate the rules or laws of applicable non-U.S. jurisdictions. The 2010 Plan also authorizes the plan administrator to modify outstanding awards, including reducing the exercise, purchase or strike price of any outstanding stock award, and canceling any outstanding stock award in exchange for new stock awards, with the consent of any adversely affected participant.

*Stock Options*. ISOs and NSOs were granted under the 2010 Plan pursuant to stock option agreements adopted by the plan administrator. The plan administrator determined the exercise price for a stock option, which was not less than 100% of the fair market value of Legacy Origin's common stock on the date of grant. The plan administrator determined the term of stock options granted under the 2010 Plan, up to a maximum of ten years. Unless the terms of an optionholder's stock option agreement provide otherwise, if an optionholder's service relationship with us, or any of Origin's affiliates, ceases for any reason other than disability, death or cause, the optionholder may generally exercise any vested options for a period of thirty days following the cessation of service, or such other period specified in the applicable award agreement. The option term may be extended in the event that the exercise of the option following such a termination of service is prohibited by applicable securities laws or Origin's insider trading policy. If an optionholder's service relationship with us or any of Origin's affiliates ceases due to disability or death, or an optionholder dies within a certain period following cessation of service, the optionholder or a beneficiary may generally exercise any vested options for a period of 12 months. In the event of a termination for cause, options generally terminate immediately upon the termination of the individual for cause, subject to the terms of the applicable award agreement. In no event may an option be exercised beyond the expiration of its term. Acceptable consideration for the purchase of common stock issued upon the exercise of a stock option, as determined by the plan administrator, may include (1) cash, (2) check, (3) delivery of a promissory note with such recourse, interest, security and redemptions provisions as the plan administrator determines as appropriate, (4) surrender of shares held for the requisite period, if any, necessary to avoid a charge to our earnings for financial reporting purposes, (5) a broker-assisted cashless exercise, (6) a net exercise of the option if it is an NSO, or (7) any combination of the foregoing methods of payment.

*Changes to Capital Structure*. In the event that there is a specified type of change in Origin's capital structure, such as a stock split or recapitalization, appropriate adjustments will be made to the number of shares covered by each outstanding award, and the number of shares which have been authorized for issuance under the 2010 Plan but as to which no awards have yet been granted or which have been returned to the 2010 Plan, the exercise or purchase price of each such outstanding award, the maximum number of shares with respect to which awards may be granted to any participant in any calendar year, as well as any other terms that the plan administrator determines require adjustment.

*Corporate Transactions.* The 2010 Plan provides that in the event of certain specified significant corporate transactions, unless otherwise provided in an award agreement or other written agreement between us and the award holder, all outstanding awards issued under the 2010 Plan shall terminate, except to the extent that they are assumed in connection with the corporate transaction. The plan administrator has the authority, exercisable either in advance of any actual or anticipated corporate transaction or at the time of an actual corporate transaction and exercisable at the time of the grant of an award under the 2010 Plan or any time while an award remains outstanding, to provide for the full or partial automatic vesting and exercisability of one or more outstanding unvested awards under the 2010 Plan and the release from restrictions on transfer and repurchase or forfeiture rights of such awards in connection with a corporate transaction, on such terms and conditions as the plan administrator may specify. The plan administrator also has the authority to condition any such award vesting and exercisability or release from such limitations upon the subsequent termination of the continuous service of the participant within a specified period following the effective date of the corporate transaction. Any ISO accelerated in connection with a corporate transaction remains exercisable as an ISO only to the extent the $100,000 dollar limitation is not exceeded.

Under the 2010 Plan, a significant corporate transaction is generally the consummation of (1) a merger or consolidation in which we are not the surviving entity, except for a transaction the principal purpose of which is to change the state in which we are incorporated, (2) the sale, transfer or other disposition of all or substantially all of Origin's assets, (3) Origin's complete liquidation or dissolution, (4) any reverse merger or series of related transactions culminating in a reverse merger (including, but not limited to, a tender offer followed by a reverse merger) in which we are the surviving entity but securities possessing more than 50% of the total combined voting power are transferred to a person or persons different from those who held such securities immediately prior to such merger or transaction, or (5) the acquisition in a single or series of related transactions by any person or related group of persons (other than by us or by a company-sponsored employee benefit plan) of beneficial ownership of securities possessing more than 50% of the total combined voting power of Origin's outstanding securities.

*Transferability*. A participant generally may not transfer stock awards under the 2010 Plan other than by will, the laws of descent and distribution or to the extent and in the manner authorized by the plan administrator by gift or pursuant to a domestic relations order to members of a participant's immediate family.

*Amendment and Termination*. Origin's board of directors has the authority to amend, suspend or terminate the 2010 Plan, provided that, with certain exceptions, such action does not adversely affect the existing rights of any participant without such participant's written consent. Certain material amendments also require the approval of Origin's stockholders. The 2010 Plan terminated by its own terms at the conclusion of its ten-year term in March 2020.

**Health and Welfare Benefits**

Our named executive officers are eligible to participate in our employee benefit plans, including our medical, dental, vision, life, disability and accidental death and dismemberment insurance plans, in each case on the same basis as all of our other employees. We pay the premiums for the basic life, disability and accidental death and dismemberment insurance for all of our employees, including our named executive officers. We generally do not provide perquisites or personal benefits to our named executive officers.

**Rule 10b5-1 Sales Plans**

Our directors and executive officers may adopt written plans, known as Rule 10b5-1 plans, in which they will contract with a broker to buy or sell shares of common stock on a periodic basis. Under a Rule 10b5-1 plan, a broker executes trades pursuant to parameters established by the director or executive officer when entering into the plan, without further direction from them. The director or executive officer may amend a Rule 10b5-1 plan in some circumstances and may terminate a plan at any time. Our directors and executive officers also may buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material nonpublic information, subject to compliance with the terms of our insider trading policy and the lock-up agreements such persons have entered into in connection with the Business Combination.

## CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Other than compensation arrangements for our directors and executive officers, which are described under the section titled “Executive Compensation” of this prospectus, below is a description of transactions since January 1, 2019 to which we were a party or will be a party, in which:

- the amounts involved exceeded or will exceed the lesser of (1) $120,000, or (2) 1% of the average of Origin’s total assets at year end for the last two completed fiscal years; and
- any of our directors, executive officers or holders of more than 5% of any class of our 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.

### Investor Rights Agreement

In connection with the Closing of the Business Combination, we entered into the Investor Rights Agreement on June 25, 2021, pursuant to which the holders of Registrable Securities (as defined therein) became entitled to, among other things, customary registration rights, including demand, piggy-back and shelf registration rights. Pursuant to the Investor Rights Agreement, we agreed that, within 15 business days following the Closing of the Business Combination, we will file with the SEC (at our sole cost and expense) a registration statement registering the resale of such Registrable Securities, and we will use our commercially reasonable efforts to have such registration statement declared effective by the SEC as soon as reasonably practicable after the filing thereof. The Investor Rights Agreement also provides that we will pay certain expenses relating to such registrations and indemnify the registration rights holders against (or make contributions in respect of) certain liabilities which may arise under the Securities Act.

### Lock-Up Agreements

In connection with the Closing, certain of our stockholders, including the directors and, officers, agreed, subject to certain exceptions, not to, without the prior written consent of our board of directors, transfer (i) any shares of our Common Stock held by such parties immediately after the Merger, (ii) any securities convertible into or exercisable or exchangeable for our Common Stock, including the Private Placement Warrants, held by such parties immediately after the Merger and (iii) any shares of our Common Stock issued upon conversion, exercise or exchange of any of the securities described in clause (ii). The lock-up period commenced upon the Closing and continues through the earliest to occur of: (i) 365 days after the date of the Closing; (ii) the first day after the date on which the closing price of the our Common Stock equals or exceeds $12.00 per share (as adjusted for stock splits, stock dividends, reorganizations, recapitalizations and the like) for any 20 trading days within any 30-trading day period commencing at least 150 days after the date of the Closing; or (iii) the date on which we complete a liquidation, merger, capital stock exchange, reorganization or other similar transaction that results in all of our stockholders having the right to exchange their Common Stock for cash, securities or other property. The lock-up restrictions contain customary exceptions, including for estate planning transfers, affiliates transfers, and transfers upon death or by will. The holders of 35,765,099 shares of Common Stock are subject to a Lock-Up Agreement.

### Artius Related Agreements

#### *Private Placement Warrants*

Simultaneously with the closing of the Artius IPO, Artius consummated a private placement of 11,326,667 Private Placement Warrants, at a price of $1.50 per Private Placement Warrant to the Sponsor, with the over- allotment option being exercised in full.

Each whole Private Placement Warrant is exercisable for one whole share of our Common Stock at a price of $11.50 per share. A portion of the proceeds from the sale of the Private Placement Warrants to the Sponsor was added to the proceeds from the Artius IPO held in a trust account.

### *Sponsor Letter Agreement*

Concurrently with the execution of the Merger Agreement, Artius and the Sponsor entered into the Sponsor Letter Agreement, pursuant to which the Sponsor agreed, among other things, to (i) vote in favor of the Artius Stockholder Voting Matters (as defined in the Sponsor Letter Agreement), and (ii) pay any excess of Artius Transaction Expenses (as defined in the Merger Agreement) over the Artius Transaction Expense Cap (as defined in the Sponsor Letter Agreement).

In addition, pursuant to the Sponsor Letter Agreement, the Sponsor agreed to subject the 4.5 million shares of Common Stock held by Sponsor to vesting and forfeiture as follows: (A) one third of such shares will vest when VWAP equals or exceeds $15.00 for ten consecutive trading days during the three year period following the Closing, (B) one third of such shares will vest when VWAP equals or exceeds $20.00 for ten consecutive trading days during the four year period following the Closing, and (C) one third of such shares will vest when VWAP equals or exceeds $25.00 for ten consecutive trading days during the five year period following the Closing. Such shares (including any related dividends or distributions) that do not vest by the first business day following the applicable vesting period in the Sponsor Letter Agreement will be surrendered to us without any consideration. The vesting of the shares will be accelerated in the event of Origin completes a liquidation, merger, capital stock exchange, reorganization or other similar transaction that results in all of our public shareholders having the right to exchange their Common Stock for cash, securities or other property.

### *Subscription Agreements*

On the Closing Date, certain purchasers (each, a “Subscriber”) purchased from Origin an aggregate of 20,000,000 shares of Common Stock (the “PIPE Shares”), for a purchase price of $10.00 per share and an aggregate purchase price of $200.0 million, pursuant to separate subscription agreements dated February 16, 2021 (collectively, the “Subscription Agreements”). Pursuant to the Subscription Agreements, we agreed to provide the Subscribers with certain registration rights with respect to the PIPE Shares. Legacy Origin customers and investors Pepsi, Nestle´ and Danone purchased 97,500, 100,000 and 100,000 shares of our Common Stock in the PIPE transaction.

On the Closing Date, certain purchasers (each, an “Additional Subscriber”), including affiliates, purchased from us an aggregate of 1,300,001 shares of Common Stock (the “Additional Subscription Shares”), for a purchase price of $10.00 per share and an aggregate purchase price of $13.0 million, pursuant to separate purchase agreements dated June 23, 2021 (collectively, the “Additional Subscription Agreements”). Pursuant to the Additional Subscription Agreements, we agreed to provide certain registration rights to the Additional Subscribers with respect to the Additional Subscription Shares. Charles Drucker, a member of our board of directors, and Evergreen Acquisition I Corp purchased 650,000 and 130,000 shares, respectively, pursuant to these Additional Subscription Agreements. Lior Amram, a former member of Legacy Origin’s board of directors and a holder of more than 5% of our Common Stock, is the sole manager of Evergreen Acquisition I Corp and may be deemed to hold sole voting and dispositive power over the Common Stock shares held by Evergreen Acquisition I Corp.

## Legacy Origin Transactions

### *2019 Convertible Note Financing*

From November 2019 to February 2021, Legacy Origin issued and sold senior secured convertible notes with an aggregate principal amount of $5.0 million (the “2019 Notes”) pursuant to a note purchase agreement, which was amended in February 2020. The 2019 Notes, which were amended in May 2020, January 2021 and February 2021, accrue interest at a rate of 10.0% per annum. All principal and accrued interest thereupon converted into shares of Legacy Origin Common Stock immediately prior to the closing of the Business Combination. As of December 31, 2019, 2020 and 2021, $1.0 million, $3.4 million and $5.2 million of aggregate principal plus accrued interest was outstanding under the 2019 Notes, respectively.

The participants in the convertible note financing included entities affiliated with members of the Origin and Legacy Origin board of directors and an executive officer of Origin. The following table sets forth the aggregate principal amount of the 2019 Notes issued to such parties and the shares of our Common Stock issued in respect thereof upon the Closing of the Business Combination.

| Noteholders | Aggregate Principal Amount of 2019 Notes | Shares of Origin Common Stock |
|---|---|---|
| PM Operating, LTD[(1)] | $ 1,500,000 | 232,615 |
| PepsiCo, Inc.[(2)] | 524,109 | 85,103 |
| OM Funding I, LLC[(3)] | 400,000 | 61,957 |
| JLA Asset Management LLC[(3)] | 322,000 | 47,762 |
| Riley Separate Property Trust[(4)] | 250,000 | 38,767 |
| Noteholders affiliated with Alexander Millar[(5)] | 250,350 | 38,763 |

(1) Anne M. Smalling is the chief executive officer of PM Operating, LTD. Richard Smalling, a former member of Legacy Origin's board of directors, is Ms. Smalling's husband.
(2) Kevin O'Sullivan, a former member of Legacy Origin's board of directors, is a senior vice president at Pepsi.
(3) Lior Amram, a former member of Legacy Origin's board of directors and a holder of more than 5% of our Common Stock, is the manager of OM Funding I, LLC and managing member of JLA Asset Management LLC. All notes held by OM Funding I, LLC were converted into shares of Legacy Origin Common Stock and were distributed to its members prior to Closing of the Business Combination.
(4) Rich Riley, Origin's Co-Chief Executive Officer and a member of Origin's board of directors, is the trustee of the Riley Separate Property Trust.
(5) 2019 Notes are held by (i) Alex & Kristin Millar, (ii) Buff Investment Limited Partnership, (iii) Buff, Amanda Trust Under Deed of Trust Dated January 11, 1997, (iv) Buff, Jonathan David Trust Under Deed of Trust Dated January 11, 1997 and (v) Buff, Jon Charles. Alexander Millar is a former member of Legacy Origin's board of directors. Mr. Millar's wife Kristin Millar, father-in-law Jon Charles Buff and sister-in-law Katharine Buff Leraris are co-owners of Buff Investments L.P. Mr. Millar's father-in-law, Jon Charles Buff, is the settlor of "Buff, Amanda Trust Under Deed of Trust Dated January 11, 1997" and "Buff, Jonathan David Trust Under Deed of Trust Dated January 11, 1997." Additionally, Mr. Millar's sister-in-law Amanda Buff is the beneficiary of "Buff, Amanda Trust Under Deed of Trust Dated January 11, 1997," and Mr. Millar's brother-in-law Jonathan Buff is the beneficiary of "Buff, Jonathan David Trust Under Deed of Trust Dated January 11, 1997."

### *2021 Convertible Note Financing*

In February 2021, Legacy Origin issued and sold convertible promissory notes with an aggregate principal amount of $10.0 million and an interest rate of 8.0% per annum (the "2021 Notes"). All principal and accrued interest thereupon converted into shares of Legacy Origin Common Stock immediately prior to the closing of the Business Combination. As of March 31, 2021, the aggregate principal amount and interest of the 2021 Notes was $10.1 million.

The participants in the convertible note financing included entities affiliated with members of the Origin and Legacy Origin board of directors. The following table sets forth the aggregate principal amount of the 2021 Notes issued to such parties and the shares of our Common Stock issued upon the Closing of the Business Combination:

| Noteholders | Aggregate Principal Amount of 2021 Notes | Shares of Origin Common Stock |
|---|---|---|
| Noteholders affiliated with Gavin H. Wolfe[(1)] | $ 2,650,000 | 341,045 |
| Snipes 2005 Trust[(2)] | 2,000,000 | 257,395 |
| Evergreen Capital, L.P.[(3)] | 1,450,000 | 186,612 |
| AMS DE LLC[(4)] | 500,000 | 64,347 |

(1) 2021 Notes are held by (i) Gavin H. Wolfe, a former member of Legacy Origin's board of directors, and his spouse, and (ii) trusts established for the benefit of their immediate family members, of which Mr. Wolfe and his spouse are co-trustees.
(2) Jeff Snipes is the trustee of the Snipes 2005 Trust. Richard Smalling, a former member of Legacy Origin's board of directors, is Mr. Snipe's brother-in-law.
(3) Gavin H. Wolfe, a former member of Legacy Origin's board of directors, and his spouse are co-trustees of a trust established for the benefit of their children that is a holder of equity interests in Evergreen Capital, L.P.

(4) Anne M. Smalling is the chief executive officer of AMS DE LLC. Richard Smalling, a former member of Legacy Origin's board of directors, is Ms. Smalling's husband.

***Omnibus Warrant Amendment***

In November 2019, Legacy Origin entered into an omnibus warrant amendment to extend the exercise period of certain warrants by 10 years, including warrants held by entities affiliated with (i) NewGen Plastics, LLC, which is affiliated with one of the holders of 5% of our capital stock, Lior (Lee) Amram and former Legacy Origin director Gavin H. Wolfe, (ii) Millar Midas Investment Holdings, LLC, which is affiliated with former Legacy Origin director Alexander C. Millar, (iii) AMS DE LLC and PM Operating, LTD, which are affiliated with former Legacy Origin director Richard Smalling, and (iv) Rich Riley, a director and Co-Chief Executive Officer of Origin.

***Nestlé Promissory Note***

In November 2016, Legacy Origin received a $5.0 million prepayment from Nestlé Waters Management & Technology (together with its affiliates, "Nestlé") for product from Origin 1 manufacturing plant pursuant to that certain Amended and Restated Offtake Supply Agreement between Legacy Origin and Nestlé, dated as of May 23, 2019 (the "Nestlé Offtake Agreement"). The prepayment is to be credited against the purchase of products from Origin 1 manufacturing plant over the term of the Nestlé Offtake Agreement. The prepayment is secured by a promissory note (the "Nestlé Promissory Note") to be repaid in cash in the event the prepayment cannot be credited against the purchase of product, for example, if Origin 1 manufacturing plant is never constructed. The Nestlé Promissory Note is collateralized substantially by the Origin 1 manufacturing plant and other assets of Origin Material Canada Pioneer Limited, one of our wholly-owned subsidiaries. If repaid in cash, the Nestlé Promissory Note bears an annual interest rate of the three-month London Interbank Offered Rate (LIBOR) plus 0.25% (0.44% at March 31, 2021) and matures five years from the commercial operation date of the Origin 1 manufacturing plant. At December 31, 2021 and 2020, the total note principal outstanding was $5,105,055 and $5,105,055 plus accrued interest of $138,690 and $117,292, respectively.

***Danone Promissory Note***

In November 2016, Legacy Origin received a $5.0 million prepayment from Danone Asia Pte Ltd. (together with its affiliates, "Danone") for product from the Origin 1 manufacturing plant. The prepayment was secured by a promissory note (the "Danone Promissory Note"). In May 2019, Legacy Origin and Danone amended and restated the Danone Promissory Note. The amendment added accrued interest of $189,169 to the principal balance of the prepayment. The Danone Promissory Note bears interest at 3.50% per annum and is to be repaid in three installments of $2.2 million, $2.1 million, and $2.1 million (inclusive of accrued but unpaid interest) on December 20, 2024, December 19, 2025, and December 18, 2026, respectively. At December 31, 2021 and 2020, the total debt outstanding was $5,189,169. At December 31, 2021 and 2020 accrued interest totaled $476,251 and $294,630, respectively, and is included in other liabilities, long-term, on the consolidated balance sheets.

**Indemnification Agreements**

Our Certificate of Incorporation contains provisions limiting the liability of executive officers and directors, and the Bylaws provide that we will indemnify each of our executive officers and directors to the fullest extent permitted under Delaware law. The Certificate of Incorporation and the Bylaws also provide the board of directors with discretion to indemnify certain key employees when determined appropriate by our board.

We have entered into indemnification agreements with each of our directors and officers and certain other key employees. The indemnification agreements provide that we will indemnify each of our directors, executive officers, and other key employees against any and all expenses incurred by such director, executive officer, or other key employee because of his or her status as one of our directors, executive officers, or other key employees, to the fullest extent permitted by Delaware law, the Certificate of Incorporation and the Bylaws. In addition, the indemnification agreements provide that, to the fullest extent permitted by Delaware law, we will advance all expenses incurred by our directors, executive officers, and other key employees in connection with a legal proceeding involving his or her status as a director, executive officer, or key employee. For more information regarding these indemnification agreements, see the section entitled "*Description of Securities*."

**Policies and Procedures for Related Party Transactions**

Our audit committee has the primary responsibility for reviewing and approving transactions with related persons. Our audit committee charter provides that our audit committee shall review and approve in advance any related person transactions. Our board of directors has adopted a formal written policy providing that officers, directors, holders of more than 5% of any class of our voting securities, and any member of the immediate family of and any entity affiliated with any of the foregoing persons, will not be permitted to enter into a related-party transaction with us without the prior consent of the audit committee, or other independent members of our board of directors in the event it is inappropriate for the audit committee to review such transaction due to a conflict of interest. Any request for us to enter into a transaction with an executive officer, director, principal stockholder, or any of their immediate family members or affiliates, in which the amount involved exceeds $120,000, must first be presented to the audit committee for review, consideration, and approval. In approving or rejecting the proposed transactions, the audit committee will take into account all of the relevant facts and circumstances available.

All of the transactions described in this section were entered into prior to the adoption of this policy.

## PRINCIPAL SECURITYHOLDERS

The following table sets forth certain information with respect to the beneficial ownership of our capital stock as of December 31, 2021 for:

- each person or group of affiliated persons known by us to be the beneficial owner of more than 5% of our common stock;
- each of our named executive officers;
- each of our directors and nominees for director; and
- all of our current executive officers and directors as a group.

We have determined beneficial ownership in accordance with the rules and regulations of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Except as indicated by the footnotes below, we believe, based on information furnished to us, that the persons and entities named in the table below have sole voting and sole investment power with respect to all shares of our capital stock that they beneficially own, subject to applicable community property laws.

Applicable percentage ownership is based on 141,301,569 shares of our common stock outstanding as of December 31, 2021. The following table does not reflect record or beneficial ownership of any warrants to purchase common stock. In computing the number of shares of capital stock beneficially owned by a person and the percentage ownership of such person, we deemed to be outstanding all shares of our capital stock subject to options held by the person that are currently exercisable or exercisable within 60 days of December 31, 2021 and issuable upon the vesting of RSUs held by the person within 60 days of December 31, 2021. However, we did not deem such shares of our capital stock outstanding for the purpose of computing the percentage ownership of any other person.

Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o Origin Materials, Inc., 930 Riverside Parkway, Suite 10, West Sacramento, California 95605. The information provided in the table is based on our records, information filed with the SEC and information provided to us, except where otherwise noted.

| Name of Beneficial Owner | Number of Shares Beneficially Owned | Percentage of Shares Beneficially Owned |
|---|---|---|
| **5% Stockholders:** | | |
| Artius Acquisition Partners LLC[1] | 18,112,500 | 12.80 % |
| Lior Amram[2] | 9,773,074 | 6.90 % |
| **Named Executive Officers and Directors:** | | |
| John Bissell[3] | 1,715,652 | 1.20 % |
| Rich Riley[4] | 2,251,608 | 1.60 % |
| Stephen Galowitz[5] | 1,417,256 | 1.00 % |
| Joshua Lee[6] | 105,823 | 0.10 % |
| Pia Heidenmark Cook | — | * |
| Benno O. Dorer[7] | 16,530 | * |
| Charles D. Drucker[1][11] | 18,862,500 | 13.30 % |
| Kathleen B. Fish[8] | 7,500 | * |
| William Harvey[9] | 158,734 | 0.10 % |
| Karen Richardson[10] | 20,000 | * |
| Boon Sim[1][12] | 18,187,500 | 12.90 % |
| All executive officers and directors as a group (12 persons)[13] | 43,007,662 | 29.70 % |

* Represents beneficial ownership of less than one percent (1%) of the outstanding shares of our common stock.

(1) Artius Acquisition Partners LLC is the record holder of the shares reported herein. Mr. Sim and Mr. Drucker are the founding members of Artius Acquisition Partners LLC and together exercise voting and investment power with respect to the common stock held by Artius Acquisition Partners LLC. The shares beneficially owned by Artius Acquisition Partners LLC may also be deemed to be beneficially owned by Mr. Sim and Mr. Drucker.

(2) Consists of (i) 33,843 shares of common stock held directly by Mr. Amram; (ii) 9,549,858 shares of common stock held by Evergreen InvestCo I, LLC ("Evergreen InvestCo I"); (iii) 59,373 shares of common stock held by JLA Construction LLC 401k Plan ("JLA Construction"); and (iv) 130,000 shares of common stock held by Evergreen Acquisition I Corp ("Evergreen Acquisition"). Mr. Amram is the sole manager of each of Evergreen InvestCo I, Evergreen Acquisition and JLA Construction, and may be deemed to hold sole voting and dispositive power over the common stock shares held by these entities. With respect to the shares of common stock held by these entities, Mr. Amram disclaims beneficial ownership other than to the extent he may have a pecuniary interest therein, directly or indirectly. The principal business address for Mr. Amram is c/o Evergreen Capital, L.P. 551 Fifth Avenue, Suite 2100, New York, New York 10176.

(3) Consists of (i) 664,943 shares of common stock held directly by Mr. Bissell and (ii) 1,050,709 shares of common stock issuable to Mr. Bissell pursuant to options exercisable within 60 days of December 31, 2021.

(4) Consists of (i) 1,084,693 shares of common stock issuable to Mr. Riley pursuant to options exercisable within 60 days of December 31, 2021; (ii) 229,668 shares of common stock held by Riley Family Trust; (iii) 229,415 shares of common stock held by Riley Investment Trust I; and (iv) 707,832 shares of common stock held by Richard J. Riley Separate Property Trust. Mr. Riley is co-trustee of the Riley Family Trust and by virtue of his shared control over Riley Family Trust, may be deemed to beneficially own the shares of common stock held by Riley Family Trust. Mr. Riley is sole trustee of each of Riley Investment Trust I and Riley Separate Property Trust and may be deemed to hold sole voting and dispositive power over the common stock shares held by Riley Investment Trust I and Riley Separate Property Trust.

(5) Consists of (i) 391,157 shares of common stock held by Stephen and Jill Galowitz JTWROS, (ii) 391,157 shares of common stock held by The Galowitz Family 2021 Trust and (iii) 634,942 shares of common stock issuable to Mr. Galowitz pursuant to options exercisable within 60 days of December 31, 2021.

(6) Consists of 105,823 shares of common stock issuable to Mr. Lee pursuant to options exercisable within 60 days of December 31, 2021.

(7) Consists of 15,000 shares of common stock held by The Benno Dorer Revocable Trust and 1,530 shares of common stock held directly by Mr. Dorer.

(8) Consists of 7,500 shares of common stock held directly by Ms. Fish.

(9) Consists of 158,734 shares of common stock issuable to Mr. Harvey pursuant to options exercisable within 60 days of December 31, 2021.

(10) Consists of 20,000 shares of common stock held directly by Karen A. Richardson Trust dated January 11, 2007, as amended and restated.

(11) Includes 750,000 shares of common stock held directly by Mr. Drucker.

(12) Includes 75,000 shares of common stock held directly by Mr. Sim.

(13) Includes shares beneficially held by Mr. Whaley, in addition to the shares held by the named executive officers and directors.

## SELLING SECURITYHOLDERS

This prospectus relates to the resale by the selling securityholders from time to time of up to 64,832,474 shares of Common Stock (including 11,326,667 shares of Common Stock that may be issued upon exercise of the Private Placement Warrants, 6,398,350 shares of Common Stock issuable upon the exercise of stock options and up to 2,150,784 shares of Common Stock issuable as Earnout Shares) and up to 11,326,667 Private Placement Warrants. The selling securityholders may from time to time offer and sell any or all of the Common Stock and Private Placement Warrants set forth below pursuant to this prospectus and any accompanying prospectus supplement. As used in this prospectus, the term "selling securityholders" includes the persons listed in the table below, together with any additional selling securityholders listed in a subsequent amendment to this prospectus, and their pledgees, donees, transferees, assignees, successors, designees and others who later come to hold any of the selling securityholders' interests in the Common Stock or Private Placement Warrants other than through a public sale.

Certain of the selling securityholders listed below entered into a Lock-up Agreement with us with respect to certain of the shares of Common Stock that may be sold by it from time to time pursuant to the registration statement of which this prospectus forms part. Such restrictions began at Closing and end on the earliest to occur of (i) 365 days after the date of the Closing; (ii) the first day after the date on which the closing price of the Common Stock equals or exceeds $12.00 per share (as adjusted for stock splits, stock dividends, reorganizations, recapitalizations and the like) for any 20 trading days within any 30-trading day period commencing at least 150 days after the date of the Closing; or (iii) the date on which Origin completes a liquidation, merger, capital stock exchange, reorganization or other similar transaction that results in all of our public shareholders having the right to exchange their Common Stock for cash, securities or other property. See the section titled "*Certain Relationships and Related Party Transactions—Lock-Up Agreements.*"

Except as set forth in the footnotes below, the following table sets forth, based on written representations from the selling securityholders, certain information as of June 25, 2021 regarding the beneficial ownership of our Common Stock (including Common Stock issuable on exercise of stock options) and Warrants by the selling securityholders and the shares of Common Stock (including Common Stock issuable on exercise of stock options) and Warrants being offered by the selling securityholders. For the avoidance of doubt, the table below also includes Earnout Shares and shares of Common Stock issuable upon the exercise of options not yet vested. The applicable percentage ownership of Common Stock is based on approximately 141,248,470 shares of Common Stock outstanding as of June 25, 2021 (prior to exercise of all Warrants). Information with respect to shares of Common Stock and Private Placement Warrants owned beneficially after the offering assumes the sale of all of the shares of Common Stock, Common Stock issuable on exercise of stock options, or Private Placement Warrants. The selling securityholders may offer and sell some, all or none of their shares of Common Stock or Private Placement Warrants, as applicable.

We have determined beneficial ownership in accordance with the rules of the SEC. Except as indicated by the footnotes below, we believe, based on the information furnished to us, that the selling securityholders have sole voting and investment power with respect to all shares of Common Stock and Warrants that they beneficially own, subject to applicable community property laws. Except as otherwise described below, based on the information provided to us by the selling securityholders, no selling securityholder is a broker-dealer or an affiliate of a broker dealer.

Except as set forth in the footnotes below, the following table does not include up to 24,150,000 shares of Common Stock issuable upon exercise of the Public Warrants.

Please see the section titled "*Plan of Distribution*" for further information regarding the selling securityholder's method of distributing these shares.

| Name of Selling Securityholder | Shares of Common Stock | | | | Warrants to Purchase Common Stock | | | |
|---|---|---|---|---|---|---|---|---|
| | Number Beneficially Owned Prior to Offering | Number Registered for Sale Hereby | Number Beneficially Owned After Offering | Percent Owned After Offering | Number Beneficially Owned Prior to Offering | Number Registered for Sale Hereby | Number Beneficially Owned After Offering | Percent Owned After Offering |
| **PIPE & Backstop Investors:** | | | | | | | | — |
| Apollo A-N Crefit Fund (Delaware), L.P.[1] | 775,688 | 775,688 | — | — | — | — | — | — |
| Apollo A-N Credit Fund (DEL) LP Overflow 2[1] | 892,623 | 892,623 | — | — | — | — | — | — |
| Apollo Moultrie Credit Fund, L.P.[1] | 312,500 | 312,500 | — | — | — | — | — | — |
| Apollo Lincoln Fixed Income Fund, L.P.[1] | 392,578 | 392,578 | — | — | — | — | — | — |
| Apollo Atlas Master Fund, LLC[1] | 660,541 | 660,541 | — | — | — | — | — | — |
| Apollo PPF Credit Strategies, LLC[1] | 58,001 | 58,001 | — | — | — | — | — | — |
| Apollo Credit Strategie Master Fund Ltd.[1] | 408,069 | 408,069 | — | — | — | — | — | — |
| Athanor International Master Fund, LP[2] | 132,230 | 132,230 | — | — | — | — | — | — |
| Athanor Master Fund, LP[2] | 567,770 | 567,770 | — | — | — | — | — | — |
| Baron Small Cap Fund[3] | 1,000,000 | 1,000,000 | — | — | — | — | — | — |
| Baron Innovator Funds LP[3] | 39,900 | 39,900 | — | — | — | — | — | — |
| Blackstone Aqua Master Sub-Fund, a sub-fund of Blackstone Global Master Fund ICAV[4] | 200,000 | 200,000 | — | — | 100,000 | — | 100,000 | * |
| Millais Limited[5] | 1,350,000 | 200,000 | 1,150,000 | * | 133,333 | — | 133,333 | * |
| BNP Paribas Asset Management UK Limited on behalf of BNP Paribas Funds Environmental Absolute Return Thematic Equity (EARTH)[6] | 1,423,328 | 400,000 | 1,023,328 | * | — | — | — | — |
| BNP Paribas Asset Management UK Limited on behalf of BNP Paribas Funds Energy Transition[6] | 6,373,118 | 600,000 | 5,773,118 | 4.1 % | — | — | — | — |
| SMALLCAP World Fund, Inc.[7] | 2,500,000 | 2,500,000 | | * | — | — | — | — |
| Citadel Multi-Strategy Equities Master Fund Ltd.[8] | 6,655,000 | 700,000 | 5,955,000 | 4.2 % | — | — | — | — |
| D. E. Shaw Valence Portfolios, L.L.C[9] | 262,500 | 262,500 | — | — | — | — | — | — |
| D. E. Shaw Oculus Portfolios, L.L.C[10] | 87,500 | 87,500 | — | — | — | — | — | — |
| M.H. Davidson & Co.[11] | 31,269 | 8,430 | 22,839 | * | 3,487 | — | 3,487 | * |
| Davidson Kempner Partners[11] | 401,990 | 52,290 | 349,700 | * | 97,346 | — | 97,346 | * |
| Davidson Kempner Institutional Partners, L.P.[11] | 841,772 | 108,150 | 733,622 | * | 204,913 | — | 204,913 | * |
| Davidson Kempner International, Ltd.[11] | 1,003,600 | 131,130 | 872,470 | * | 242,717 | — | 242,717 | * |
| DSAM+ Master Fund[12] | 154,400 | 154,400 | — | — | — | — | — | — |
| DSAM Alpha+ Master Fund[12] | 129,300 | 129,300 | — | — | — | — | — | — |

| Name of Selling Securityholder | Shares of Common Stock: Number Beneficially Owned Prior to Offering | Number Registered for Sale Hereby | Number Beneficially Owned After Offering | Percent Owned After Offering | Warrants to Purchase Common Stock: Number Beneficially Owned Prior to Offering | Number Registered for Sale Hereby | Number Beneficially Owned After Offering | Percent Owned After Offering |
|---|---|---|---|---|---|---|---|---|
| LMA SPC—MAP 112 Segregated Portfolio(12) | 47,800 | 47,800 | — | — | — | — | — | — |
| Electron Infrastructure Master Fund, L.P.(13) | 291,129 | 291,129 | — | — | — | — | — | — |
| Electron Global Master Fund L.P.(14) | 390,711 | 390,711 | — | — | — | — | — | — |
| Boothbay Absolute Return Strategies, LP(15) | 11,987 | 11,987 | — | — | — | — | — | — |
| AGR Trading SPC-Series EC Segregated Portfolio(16) | 6,173 | 6,173 | — | — | — | — | — | — |
| G.K.Goh Strategic Holdings Pte Ltd(17) | 125,000 | 125,000 | — | — | — | — | — | — |
| Alpha Securities Private Limited(17) | 125,000 | 125,000 | — | — | — | — | — | — |
| Governors Lane Master Fund LP(18) | 200,000 | 200,000 | — | — | — | — | — | — |
| The HGC Fund LP(19) | 100,000 | 100,000 | — | — | — | — | — | — |
| Jane Street Global Trading, LLC(20) | 397,474 | 350,000 | 47,494 | * | 10,821 | — | 10,821 | * |
| Ghisallo Master Fund LP(21) | 700,000 | 700,000 | — | — | — | — | — | — |
| Linden Capital L.P.(22) | 1,941,650 | 350,000 | 1,591,650 | 1.1 % | 1,199,745 | — | 1,199,745 | * |
| Lion Point Master, LP(23) | 100,000 | 100,000 | — | — | — | — | — | — |
| Marshall Wace Investment Strategies(24) | 1,449,823 | 696,100 | 753,723 | * | 334,334 | — | 334,334 | * |
| Integrated Core Strategies (US) LLC(25) | 4,169,345 | 668,500 | 3,500,845 | 2.5 % | 207,084 | — | 207,084 | * |
| Riverview Group LLC(25) | 1,350,000 | 100,000 | 1,250,000 | * | 612,035 | — | 612,035 | * |
| BMO Nesbitt Burns ITF MMCAP International Inc. SPC for and on behalf of MMCAP Master Segregated Portfolio Account: 402-21506-29(26) | 200,000 | 200,000 | — | — | — | — | — | — |
| MMF LT, LLC(27) | 1,100,000 | 700,000 | 400,000 | * | 400,000 | — | 400,000 | * |
| Northern Right Capital (QP), LP(28) | 72,500 | 72,500 | — | — | — | — | — | — |
| NRC SPAC Capital, LP(29) | 15,000 | 15,000 | — | — | — | — | — | — |
| Anna-Maria and Stephen Kellen Foundation, Inc.(30) | 17,193 | 12,500 | 4,693 | — | — | — | — | — |
| Park West Investors Master Fund, Limited(31) | 730,000 | 730,000 | — | — | 454,848 | — | 454,848 | * |
| Park West Partners International, Limited(31) | 71,500 | 71,500 | — | — | 45,152 | — | 45,152 | * |
| Polar Multi-Strategy Master Fund(32) | 317,739 | 146,373 | 171,366 | * | 89,016 | — | 89,016 | * |
| Polar Long/Short Master Fund(32) | 457,261 | 203,627 | 253,634 | * | 125,832 | — | 125,832 | * |
| Sachem Head Master LP(33) | 336,800 | 336,800 | — | — | — | — | — | — |
| Sachem Head LP(33) | 463,200 | 463,200 | — | — | — | — | — | — |

| Name of Selling Securityholder | Shares of Common Stock | | | | Warrants to Purchase Common Stock | | | |
|---|---|---|---|---|---|---|---|---|
| | Number Beneficially Owned Prior to Offering | Number Registered for Sale Hereby | Number Beneficially Owned After Offering | Percent Owned After Offering | Number Beneficially Owned Prior to Offering | Number Registered for Sale Hereby | Number Beneficially Owned After Offering | Percent Owned After Offering |
| Sylebra Captial Parc Master Fund[34] | 1,311,450 | 1,311,450 | — | — | — | — | — | — |
| BEMAP Master Fund Ltd[35] | 188,550 | 188,550 | — | — | — | — | — | — |
| IAM Investments ICAV-O'Connor Event Driven UCITS Fund[36] | 1,190 | 1,190 | — | — | 2,468 | — | 2,468 | * |
| Nineteen77 Global Merger Arbitrage Master Limited[36] | 160,965 | 160,965 | — | — | 351,161 | — | 351,161 | * |
| Nineteen77 Global Merger Arbitrage Opportunity Fund[36] | 26,880 | 26,880 | — | — | 29,854 | — | 29,854 | * |
| Nineteen77 Global Multi-Strategy Alpha Master Limited[36] | 160,965 | 160,965 | — | — | 247,352 | — | 247,352 | * |
| Hexner 2020 Descendants Trust[37] | 225,000 | 100,000 | 125,000 | * | — | — | — | — |
| Alyeska Master Fund, L.P.[38] | 1,864,523 | 800,000 | 1,064,523 | * | 538,963 | — | 538,963 | * |
| Senator Global Opportunity Master Fund L.P. (39) | 1,500,000 | 1,000,000 | 500,000 | * | — | — | — | — |
| Schonfeld Strategic 460 Fund LLC[40] | 700,000 | 700,000 | — | — | — | — | — | — |
| Antara Capital Master Fund LP[41] | 200,000 | 200,000 | — | — | — | — | — | — |
| Danone North America Public Benefit Corporation[42] | 2,208,362 | 100,000 | 2,108,362 | 1.5 % | — | — | — | — |
| Nestle Waters S.A.S.[43] | 2,208,362 | 100,000 | 2,108,362 | 1.5 % | — | — | — | — |
| PepsiCo, Inc.[44] | 6,468,970 | 97,500 | 6,371,470 | 4.5 % | — | — | — | — |
| Mitsubishi Gas Chemical Company, Inc.[45] | 45,000 | 45,000 | — | — | — | — | — | — |
| AECI Limited[46] | 2,097,408 | 20,000 | 2,077,408 | 1.5 % | — | — | — | — |
| PM Operating, Ltd[47] | 3,663,758 | 216,667 | 3,447,091 | 2.4 % | — | — | — | — |
| Buff Investment Limited Partnership[48] | 363,570 | 216,667 | 146,903 | * | — | — | — | — |
| Keith F. Goggin | 2,169,881 | 86,667 | 2,083,214 | 1.5 % | — | — | — | — |
| Evergreen Acquisition I Corp[49] | 130,000 | 130,000 | — | — | — | — | — | — |
| **Directors and Officers of Origin Materials and their Affiliated Entities:** | | | | | | | | |
| John Bissell[50] | 3,748,833 | 3,748,833 | — | — | — | — | — | — |
| Riley Family Trust[51] | 255,893 | 255,893 | — | — | — | — | — | — |
| Riley Investment Trust I[52] | 304,625 | 304,625 | — | — | — | — | — | — |
| Riley Separate Property Trust[53] | 966,075 | 966,075 | — | — | — | — | — | — |

| Name of Selling Securityholder | Shares of Common Stock | | | | Warrants to Purchase Common Stock | | | |
|---|---|---|---|---|---|---|---|---|
| | Number Beneficially Owned Prior to Offering | Number Registered for Sale Hereby | Number Beneficially Owned After Offering | Percent Owned After Offering | Number Beneficially Owned Prior to Offering | Number Registered for Sale Hereby | Number Beneficially Owned After Offering | Percent Owned After Offering |
| Rich Riley(54) | 2,884,419 | 2,884,419 | — | — | — | — | — | — |
| Charles Drucker(55) | 18,862,500 | 18,762,500 | 100,000 | * | 11,326,667 | 11,326,667 | — | — |
| Stephen and Jill Galowitz JTWROS(56) | 532,196 | 532,196 | — | — | — | — | — | — |
| The Galowitz Family 2021 Trust dated February 16, 2021 with Lester E. Lipschutz as Trustee(57) | 532,196 | 532,196 | — | — | — | — | — | — |
| Stephen Galowitz(58) | 895,504 | 895,504 | — | — | — | — | — | — |
| Joshua Lee(59) | 149,521 | 149,521 | — | — | — | — | — | — |
| Nate Whaley(60) | 598,605 | 598,605 | — | — | — | — | — | — |
| William Harvey(61) | 225,439 | 225,439 | — | — | — | — | — | — |
| **Other Holder of Registration Rights pursuant to the Registration Agreement:** | | | | | | | | |
| Artius Acquisition Partners LLC(62) | 18,112,500 | 18,112,500 | — | — | 11,326,667 | 11,326,667 | — | — |

* Less than one percent.

(1) Apollo A-N Credit Management, LLC serves as the investment manager for Apollo A-N Credit Fund (Delaware), L.P. and Apollo A-N Credit Fund (DEL), LP Overflow 2. Apollo Moultrie Credit Fund Management, LLC is the investment manager of Apollo Moultrie Credit Fund, L.P. and the investment manager of Apollo Lincoln Fixed Income Fund, L.P. is Apollo Lincoln Fixed Income Management, LLC. Apollo Atlas Management, LLC serves as the investment manager of Apollo Atlas Master Fund, LLC.

Apollo Capital Management, L.P. serves as the sole member of Apollo A-N Credit Management, LLC, Apollo A-N Credit Fund (DEL), LP Overflow 2, Apollo Moultrie Credit Fund Management, LLC, Apollo Lincoln Fixed Income Management, LLC and Apollo Atlas Management, LLC. Apollo Capital Management GP, LLC serves as the general partner of Apollo Capital Management, L.P (collectively, with other affiliates, the “Apollo Entities”). Apollo Management Holdings, L.P. serves as the sole member and manager of Apollo Capital Management GP, LLC and Apollo Management Holdings GP, LLC serves as the general partner of Apollo Management Holdings, L.P.

Apollo Credit Strategies Master Fund Ltd. is the sole member of Apollo PPF Credit Strategies, LLC. Apollo ST Fund Management LLC serves as the investment manager for Apollo Credit Strategies Master Fund Ltd. Apollo ST Operating LP is the sole member of Apollo ST Management Fund Management LLC. The general partner of Apollo ST Operating LP is Apollo ST Capital LLC. ST Management Holdings, LLC is the sole member of Apollo ST Capital LLC.

The table represents certain transfers between the Apollo Entities that occurred subsequent to June 25, 2021. The address of each of the Apollo Entities listed is c/o Apollo Capital Management L.P., One Manhattanville Road, Suite 201, Purchase, New York 10577.

Based on information provided to us by the selling securityholder, the selling securityholder may be deemed to be an affiliate of a broker-dealer. Based on such information, the selling securityholder acquired the shares being registered hereunder in the ordinary course of business, and at the time of the acquisition of the shares, the selling securityholder did not have any agreements or understandings with any person to distribute such shares.

(2) Parvinder Thiara owns Athanor International Fund GP, LP, the general partner of Athanor International Master Fund, LP and Athanor Capital Partners, LP, the general partner of Athanor Master Fund, LP, and may be deemed to have voting and dispositive power over the securities held by the selling securityholders. The address for the selling securityholder is c/o Mourant Ozannes Corporate Services, 94 Solaris Avenue, PO Box 1348, Camana Bay, Grand Cayman, KY1-1108, Cayman Islands.

(3) Mr. Ronald Baron has voting and/or investment control over the shares held by Baron Small Cap Fund. Mr. Baron disclaims beneficial ownership of the shares held by Baron Small Cap Fund, Baron Capital Management, Inc. is the investment adviser to, and thereby controls the voting and disposition of, securities held by Baron Innovators Fund LP. Baron Capital Management GP, LLC, a Delaware limited liability company, is the general partner of Baron Innovators Fund LP and Mr. Ronald Baron is the control person of Baron Innovators Fund LP. The address for each of the entities listed is 767 Fifth Avenue, 49th Floor, New York, New York 10153. Based on information provided to us by the selling securityholder, the selling securityholder may be deemed to be

an affiliate of a broker-dealer. Based on such information, the selling securityholder acquired the shares being registered hereunder in the ordinary course of business, and at the time of the acquisition of the shares, the selling securityholder did not have any agreements or understandings with any person to distribute such shares.

(4) Reflects securities held directly by Blackstone Aqua Master Sub-Fund, a sub-fund of Blackstone Global Master Fund ICAV (the "Aqua Fund"). Blackstone Alternative Solutions L.L.C. is the investment manager of the Aqua Fund. Blackstone Holdings I L.P. is the sole member of Blackstone Alternative Solutions L.L.C. Blackstone Holdings I/II GP L.L.C. is the general partner of Blackstone Holdings I L.P. The Blackstone Group Inc. is the sole member of Blackstone Holdings I/II GP L.L.C. Blackstone Group Management L.L.C. is the sole holder of the Series II preferred stock of The Blackstone Group Inc. Blackstone Group Management L.L.C. is wholly owned by its senior managing directors and controlled by its founder, Stephen A. Schwarzman. Each of such Blackstone entities and Mr. Schwarzman may be deemed to beneficially own the securities beneficially owned by the Aqua Fund directly or indirectly controlled by it or him, but each (other than the Aqua Fund to the extent of its direct holdings) disclaims beneficial ownership of such securities. The address of each of the entities listed is c/o The Blackstone Group Inc., 345 Park Avenue, New York, New York 10154. Based on information provided to us by the selling securityholder, the selling securityholder may be deemed to be an affiliate of a broker-dealer. Based on such information, the selling securityholder acquired the shares being registered hereunder in the ordinary course of business, and at the time of the acquisition of the shares, the selling securityholder did not have any agreements or understandings with any person to distribute such shares.

(5) Andrew Dodd and Michael Bell are directors of Millais Limited, and may be deemed to have voting and dispositive power over the securities held by the Selling Securityholder, but each disclaims beneficial ownership of such securities. Millais Limited's principal place of business is 767 5th Ave., 9th Fl., New York, NY 10153.

(6) Edward Lees and Ulrik Fugmann, co-Portfolio Managers, on behalf of BNP Paribas Asset Management UK Limited, may be deemed to have voting and dispositive power over the securities held by the selling securityholder. The address for the entity is 5 Aldermanbury Square, London, UK EC2V 7BP. Based on information provided to us by the selling securityholder, the selling securityholder may be deemed to be an affiliate of a broker-dealer. Based on such information, the selling securityholder acquired the shares being registered hereunder in the ordinary course of business, and at the time of the acquisition of the shares, the selling securityholder did not have any agreements or understandings with any person to distribute such shares.

(7) Capital Research and Management Company ("CRMC") is the investment adviser for SMALLCAP World Fund, Inc. ("SCWF"). For purposes of the reporting requirements of the Exchange Act, CRMC and Capital World Investors ("CWI") may be deemed to be the beneficial owner of the shares of common stock held by SCWF; however, each of CRMC and CWI expressly disclaims that it is, in fact, the beneficial owner of such securities. Brady L. Enright, Julian N. Abdey, Jonathan Knowles, Gregory W. Wendt, Peter Eliot, Bradford F. Freer, Leo Hee, Roz Hongsaranagon, Harold H. La, Dimitrije Mitrinovic, Aidan O'Connell, Samir Parekh, Andraz Razen, Renaud H. Samyn, Dylan Yolles, Michael Beckwith, and Arun Swaminathan, as portfolio managers, have voting and investment powers over the shares held by SCWF. The address for SCWF is c/o Capital Research and Management Company, 333 S. Hope St., 50th Floor, Los Angeles, California 90071. SCWF acquired the securities being registered hereby in the ordinary course of its business.

(8) Pursuant to a portfolio management agreement, Citadel Advisors LLC, an investment advisors registered under the U.S. Investment Advisors Act of 1940 ("CAL"), holds the voting and dispositive power with respect to the shares held by Citadel Multi-Strategy Equities Master Fund Ltd. Citadel Advisors Holdings LP ("CAH") is the sole member of CAL. Citadel GP LLC is the general partner of CAH. Kenneth Griffin ("Griffin") is the President and Chief Executive Officer of and sole member of Citadel GP LLC. Citadel GP LLC and Griffin may be deemed to be the beneficial owners of the stock through their control of CAL and/ or certain other affiliated entities. The address for the entity is 5131 South Dearborn Street, Chicago, IL 60603.

(9) D. E. Shaw Valence Portfolios, L.L.C. has the power to vote or to direct the vote of (and the power to dispose or direct the disposition of) the shares directly owned by it (the "Subject Shares").

D. E. Shaw & Co., L.P. ("DESCO LP"), as the investment adviser of D. E. Shaw Valence Portfolios, L.L.C., may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the Subject Shares. D. E. Shaw & Co., L.L.C. ("DESCO LLC"), as the manager of D. E. Shaw Valence Portfolios, L.L.C., may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the Subject Shares. Julius Gaudio, Maximilian Stone, and Eric Wepsic, or their designees, exercise voting and investment control over the Subject Shares on DESCO LP's and DESCO LLC's behalf.

D. E. Shaw & Co., Inc. ("DESCO Inc."), as general partner of DESCO LP, may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the Subject Shares. D. E. Shaw & Co. II, Inc. ("DESCO II Inc."), as managing member of DESCO LLC, may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the Subject Shares. None of DESCO LP, DESCO LLC, DESCO Inc., or DESCO II Inc. owns any shares directly, and each such entity disclaims beneficial ownership of the Subject Shares.

David E. Shaw does not own any shares directly. By virtue of David E. Shaw's position as President and sole shareholder of DESCO Inc., which is the general partner of DESCO LP, and by virtue of David E. Shaw's position as President and sole shareholder of DESCO II Inc., which is the managing member of DESCO LLC, David E. Shaw may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the Subject Shares and, therefore, David E. Shaw may be deemed to be the beneficial owner of the Subject Shares. David E. Shaw disclaims beneficial ownership of the Subject Shares. The address for the selling stockholder is 1166 Avenue of the Americas, 9th Floor, New York, New York 10036. Based on information provided to us by the selling securityholder, the selling securityholder may be deemed to be an affiliate of a broker-dealer. Based on such information, the selling securityholder acquired the shares being registered hereunder in the ordinary course of business, and at the time of the acquisition of the shares, the selling securityholder did not have any agreements or understandings with any person to distribute such shares.

(10) D. E. Shaw Oculus Portfolios, L.L.C. has the power to vote or to direct the vote of (and the power to dispose or direct the disposition of) the shares directly owned by it (the "Subject Shares").

D. E. Shaw & Co., L.P. ("DESCO LP"), as the investment adviser of D. E. Shaw Oculus Portfolios, L.L.C., may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the Subject Shares. D. E. Shaw & Co., L.L.C. ("DESCO LLC"), as the manager of D. E. Shaw Oculus Portfolios, L.L.C., may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the Subject Shares. Julius Gaudio, Maximilian Stone, and Eric Wepsic, or their designees, exercise voting and investment control over the Subject Shares on DESCO LP's and DESCO LLC's behalf.

D. E. Shaw & Co., Inc. ("DESCO Inc."), as general partner of DESCO LP, may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the Subject Shares. D. E. Shaw & Co. II, Inc. ("DESCO II Inc."), as managing member of DESCO LLC, may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the Subject Shares. None of DESCO LP, DESCO LLC, DESCO Inc., or DESCO II Inc. owns any shares directly, and each such entity disclaims beneficial ownership of the Subject Shares.

David E. Shaw does not own any shares directly. By virtue of David E. Shaw's position as President and sole shareholder of DESCO Inc., which is the general partner of DESCO LP, and by virtue of David E. Shaw's position as President and sole shareholder of DESCO II Inc., which is the managing member of DESCO LLC, David E. Shaw may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the Subject Shares and, therefore, David E. Shaw may be deemed to be the beneficial owner of the Subject Shares. David E. Shaw disclaims beneficial ownership of the Subject Shares. The address for the selling stockholder is 1166 Avenue of the Americas, 9th Floor, New York, New York 10036. Based on information provided to us by the selling securityholder, the selling securityholder may be deemed to be an affiliate of a broker-dealer. Based on such information, the selling securityholder acquired the shares being registered hereunder in the ordinary course of business, and at the time of the acquisition of the shares, the selling securityholder did not have any agreements or understandings with any person to distribute such shares.

(11) Voting and dispositive authority over the PIPE Shares is held by Davidson Kempner Capital Management LP ("DKCM"). Anthony A. Yoseloff, Eric P. Epstein, Conor Bastable, Shulamit Leviant, Morgan P. Blackwell, Patrick W. Dennis, Gabriel T. Schwartz, Zachary Z. Altschuler, Joshua D. Morris and Suzanne K. Gibbons, through DKCM, are responsible for the voting and investment decisions relating to the PIPE Shares. Each of the aforementioned entities and individuals disclaims beneficial ownership of the PIPE Shares held by any other entity or individual named in this footnote except to the extent of such entity or individual's pecuniary interest therein, if any. The address of each of the entities and individuals in this footnote is c/o Davidson Kempner Capital Management LP, 520 Madison Avenue, 30th Floor, New York, New York 10022.

(12) DSAM Partners (London) Ltd. (the "Investment Advisor") is the investment advisor to the Holder and as such may be deemed to have voting and investment power over the securities held by the Holder. The Investment Advisor is ultimately controlled by Mr. Guy Shahar. The Holder and Mr. Shahar disclaim beneficial ownership of the securities listed above. The address for the selling stockholder is c/o Maples Corporate Services Limited, PO Box 309, Ugland House, Grand Cayman, KY1-1104, Cayman Islands.

(13) Shares held by Electron Infrastructure Master Fund L.P. The general partner of Electron Infrastructure Master Fund L.P. is Electron Infrastructure GP LLC. James O. Shaver is the managing member of Electron Infrastructure GP LLC. The address of each entity and Mr. Shaver is 10 East 53rd Street, 19th Floor, New York, NY 10022.

(14) Shares held by Electron Global Master Fund L.P. The general partner of Electron Global Master Fund L.P. is Electron GP LLC. James O. Shaver is the managing member of Electron GP LLC. The address of each entity and Mr. Shaver is 10 East 53rd Street, 19th Floor, New York, NY 10022.

(15) Voting and investment power over the shares held by Boothbay Absolute Return Strategies, LP resides with Electron Capital Partners, its Sub-Investment Manager. James O. Shaver is the managing member of Electron Capital Partners. The address of each entity and Mr. Shaver is 10 East 53rd Street, 19th Floor, New York, NY 10022.

(16) Voting and investment power over the shares held by AGR Trading SPC-Series EC Segregated Portfolio resides with Electron Capital Partners, its Sub-Investment Manager. James O. Shaver is the managing member of Electron Capital Partners. The address of each entity and Mr. Shaver is 10 East 53rd Street, 19th Floor, New York, NY 10022.

(17) Goh Yew Lin may be deemed to have voting and dispositive power over the securities held by the selling securityholder. The address for the selling stockholder is 50 Raffles Place, #33-00 Singapore Land Tower, Singapore 048623.

(18) Governors Lane LP serves as the investment advisor to Governors Lane Master Fund LP (the "Fund"). Governors Lane Fund General Partner LLC serves as the general partner of the Fund. Mr. Isaac Corre is the managing member of both Governors Lane Fund General Partner LLC and Governors Lane GP LLC, the general partner of Governors Lane LP. The address for each entity and person described in this paragraph is c/o Governors Lane LP, 510 Madison Avenue, 11th Floor, New York, NY 10022.

(19) Sean Kallir is CEO and PM of HGC Investment Management Inc, the investment manager of The HGC Fund LP, and may be deemed to have voting and dispositive power of the securities held by the selling securityholder. The address for the selling stockholder is 601-366 Adelaide St. W, Toronto, Ontario M5V IR9, Canada.

(20) Jane Street Global Trading, LLC is a wholly owned subsidiary of Jane Street Group, LLC. Michael A. Jenkins and Robert. A. Granieri are the members of the Operating Committee of Jane Street Group, LLC. The address for Jane Street Group, LLC is 250 Vesey Street, 3rd Floor, New York, New York 10281. Based on information provided to us by the selling securityholder, the selling securityholder may be deemed to be an affiliate of a broker-dealer. Based on such information, the selling securityholder acquired the shares being registered hereunder in the ordinary course of business, and at the time of the acquisition of the shares, the selling securityholder did not have any agreements or understandings with any person to distribute such shares.

(21) Michael Germino is the Authorized Signatory of the General Partner of Ghisallo Capital Management LLC, the investment manager of Ghisallo Master Fund LP, and may be deemed to have voting and dispositive power over the securities held by the selling securityholder. The address for the selling stockholder is 27 Hospital Road, George Town, Grand Cayman,KY1-9008, Cayman Islands.

(22) The securities directly held by Linden Capital L.P. are indirectly held by Linden Advisors LP (the investment manager of Linden Capital L.P.), Linden GP LLC (the general partner of Linden Capital L.P.), and Mr. Siu Min (Joe) Wong (the principal owner and the controlling person of Linden Advisors LP and Linden GP LLC). Linden Capital L.P., Linden Advisors LP, Linden GP LLC and Mr. Wong share voting and dispositive power with respect to the securities held by Linden Capital L.P. The address for the selling stockholder is c/o Linden Advisors LP, 590 Madison Ave, 15th Floor, New York, New York 10022.

(23) Lion Point Capital, LP is the investment adviser to, and thereby controls the voting and disposition of, securities held by Lion Point Master, LP. Lion Point Holdings GP, LLC is the general partner of Lion Point Capital LP, and Didric Cederholm is the control person of Lion Point Capital, LP. Their address is 250 W 55th Street, 33rd Floor, New York NY 10019.

(24) Number of shares registered for sale includes: (i) 16,825 shares held by Marshall Wace Investment Strategies Systematic Alpha Plus Fund, (ii) 35,734 shares held by Marshall Wace Investment Strategies TOPS Fund, (iii) 58.269 shares held by Marshall Wace Investment Strategies Market Neutral TOPS Fund and (iv) 585,272 shares held by Marshall Wace Investment Strategies Eureka Fund (collectively, the “Marshall Wace Funds”). Marshall Wace, LLP, a limited liability partnership formed in England (the “Investment Manager”), is the investment manager of each of the Marshall Wace Funds. Each of the Marshall Wace Funds are sub-trusts of Marshall Wace Investment Strategies, an umbrella unit trust established in Ireland with limited liability between sub-trusts. The Investment Manager has delegated certain authority for US operations and trading to Marshall Wace North America L.P. Each of the foregoing other than the Investment Manager disclaims beneficial ownership of the securities listed above. The address of the Marshall Wace Funds and the Investment Manager, is 32 Molesworth Street, Dublin 2, Ireland.

(25) Integrated Core Strategies (US) LLC, a Delaware limited liability company (“Integrated Core Strategies”), beneficially owned 4,376,429 shares of Common Stock consisting of: (i) 668,500 shares of Common Stock purchased in a private placement pursuant to a subscription agreement dated February 16, 2021 (the “PIPE”); (ii) an additional 3,500,845 shares of Common Stock acquired separately from the PIPE; and (iii) 207,084 shares of Common Stock issuable upon exercise of certain warrants.

Riverview Group LLC, a Delaware limited liability company (“Riverview Group”), beneficially owns 1,962,035 shares of Common Stock consisting of: (i) 100,000 shares of Common Stock purchased in the PIPE; (ii) an additional 1,250,000 shares of Common Stock acquired separately from the PIPE; and (iii) 612,035 shares of Common Stock issuable upon exercise of certain warrants.

ICS Opportunities, Ltd., an exempted company organized under the laws of the Cayman Islands (“ICS Opportunities”), beneficially owns 43,334 shares of Common Stock (consisting of 1 share of Common Stock and 43,333 shares of Common Stock issuable upon exercise of certain warrants). ICS Opportunities is an affiliate of Integrated Core Strategies and Riverview Group.

Millennium International Management LP, a Delaware limited partnership (“Millennium International Management”), is the investment manager to ICS Opportunities and may be deemed to have shared voting control and investment discretion over securities owned by ICS Opportunities.

Millennium Management LLC, a Delaware limited liability company (“Millennium Management”), is the general partner of the managing member of Integrated Core Strategies and Riverview Group and may be deemed to have shared voting control and investment discretion over securities owned by Integrated Core Strategies and Riverview Group. Millennium Management is also the general partner of the 100% owner of ICS Opportunities and may also be deemed to have shared voting control and investment discretion over securities owned by ICS Opportunities.

Millennium Group Management LLC, a Delaware limited liability company (“Millennium Group Management”), is the managing member of Millennium Management and may also be deemed to have shared voting control and investment discretion over securities owned by Integrated Core Strategies and Riverview Group. Millennium Group Management is also the general partner of Millennium International Management and may also be deemed to have shared voting control and investment discretion over securities owned by ICS Opportunities.

The managing member of Millennium Group Management is a trust of which Israel A. Englander, a United States citizen, currently serves as the sole voting trustee. Therefore, Mr. Englander may also be deemed to have shared voting control and investment discretion over securities owned by Integrated Core Strategies, Riverview Group and ICS Opportunities.

The foregoing should not be construed in and of itself as an admission by Millennium International Management, Millennium Management, Millennium Group Management or Mr. Englander as to beneficial ownership of the securities owned by Integrated Core Strategies, Riverview Group or ICS Opportunities, as the case may be. The address for the listed entities is c/o Millennium Management LLC, 399 Park Avenue, New York, New York 10022.

(26) Matthew MacIsaac is the Secretary of MM Asset Management Inc. and investment advisor to MMCAP International Inc. SPC, the registered holder, and may be deemed to have voting and dispositive power over the securities held by the selling securityholder. The address for selling stockholder is c/o Mourant Governance Service (Cayman) Ltd., 94 Solaris Ave., Grand Cayman, KY1-1108, Cayman Islands.

(27) Moore Capital Management, LP, the investment manager of MMF LT, LLC, has voting and investment control of the shares held by MMF LT, LLC. Mr. Louis M. Bacon controls the general partner of Moore Capital Management, LP and may be deemed the beneficial owner of our shares held by MMF LT, LLC. Mr. Bacon also is the indirect majority owner of MMF LT, LLC. The address of MMF LT, LLC, Moore Capital Management, LP and Mr. Bacon is 11 Times Square, New York, New York 10036.

(28) Matthew Drapkin is the Managing Member of BC Advisors, LLC, general partner of Northern Right Capital Management, LP, general partner of Northern Right Capital (QP), LP, and may be deemed to have voting and dispositive power over the securities held by the selling securityholder. Mr. Drapkin disclaims beneficial ownership of such shares, except to the extent of his pecuniary interest therein. The address for the selling securityholder is 9 Old Kings Hwy. S., 4th Floor, Darien, CT 06820.

(29) Matthew Drapkin is the Managing Member of BC Advisors, LLC, general partner of Northern Right Capital Management, LP, general partner of NRC SPAC Capital, LP, and may be deemed to have voting and dispositive power over the securities held by the selling securityholder. Mr. Drapkin disclaims beneficial ownership of such shares, except to the extent of his pecuniary interest therein. The address for the selling securityholder is 9 Old Kings Hwy. S., 4th Floor, Darien, CT 06820.

(30) Matthew Drapkin is the Managing Member of BC Advisors, LLC, general partner of Northern Right Capital Management, LP, investment advisor with delegated authority to vote and dispose of securities in Anna- Maria and Stephen Kellen Foundation, Inc. Mr. Drapkin disclaims beneficial ownership of such shares, except to the extent of his pecuniary interest therein. The address for the Anna-Maria and Stephen Kellen Foundation, Inc. is 1345 Avenue of the Americas, 47th Floor, New York, New York 10105.

(31) Park West Asset Management LLC is the investment manager to Park West Investors Master Fund, Limited and Park West Partners International, Limited, and Peter S. Park, through one or more affiliated entities, is the controlling manager of Park West Asset Management LLC. The address for the selling stockholders is 1900 Larkspur Landing Circle, Suite 165, Attn: Jacia Monaco, Larkspur, CA 94339.

(32) Polar Long/Short Master Fund and Polar Multi-Strategy Master Fund ("Polar Funds") are under management by Polar Asset Management Partners Inc. ("PAMPI"). PAMPI serves as investment advisor of the Polar Funds and has control and discretion over the shares held by the Polar Funds. As such, PAMPI may be deemed the beneficial owner of the shares held by the Polar Funds. PAMPI disclaims any beneficial ownership of the reported shares other than to the extent of any pecuniary interest therein. The business address of the Polar Funds is c/o Polar Asset Management Partners Inc., 401 Bay Street, Suite 1900, Toronto, Ontario M5H 2Y4.

(33) Sachem Head LP ("SHLP") and Sachem Head Master LP ("SH Master" and together with SHLP, the "Sachem Head Funds") originally subscribed to receive 463,200 PIPE Shares and 336,800 PIPE Shares, respectively, in the transaction. Pursuant to the Assignment and Assumption Agreement by and between SHLP and SH Master dated June 16, 2021, SH Master assigned the right to receive 6,720 PIPE Shares to SHLP, so that SHLP will receive 469,920 PIPE Shares in the transaction and SH Master will receive 330,080 PIPE Shares in the transaction.

Sachem Head Capital Management LP ("SHCM"), as the investment adviser to the Sachem Head Funds, may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the PIPE Shares received by the Sachem Head Funds. As the general partner of SHCM, Uncas GP LLC ("Uncas") may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the PIPE Shares received by the Sachem Head Funds. As the general partner of each of the Sachem Head Funds, Sachem Head GP LLC ("Sachem Head GP") may be deemed to have the shared power to vote or to direct the vote of (and the shared power to dispose or direct the disposition of) the PIPE Shares received by the Sachem Head Funds. By virtue of Scott D. Ferguson's position as the managing partner of SHCM and the managing member of Uncas and Sachem Head GP, Scott D. Ferguson may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the PIPE Shares. The address for the listed entities is c/o Sachem Head Capital Management LP, 250 West 55th Street, 34th Floor, New York, New York 10019.

(34) Sylebra Capital Management may be deemed to have voting and dispositive power over the securities held by the selling securityholder. The address for the selling securityholder is c/o Walkers Corporate Limited, 190 Elgin Avenue, George Town, Grand Cayman, KY1-9008, Cayman Islands.

(35) Sylebra Capital Limited as Sub-Manager of BEMAP Master Fund Ltd. may be deemed to have voting and dispositive power over the securities held by the selling securityholder. The address for the selling securityholder is 345 Park Avenue, 29th Floor, New York, New York 10154.

(36) Kevin Russell is the Chief Investment Officer of UBS O'Connor LLC, the investment manager of the selling securityholder, and may be deemed to have voting and dispositive power over the securities held by the selling securityholder. The address for the selling securityholder is c/o UBS O'Connor LLC, One North Wacker Drive, 31st Floor, Chicago, IL 60606.

(37) Thomas S. Hexner is trustee of the selling securityholder and may be deemed to have voting and dispositive power over the securities held by the selling securityholder.

(38) Alyeska Investment Group, L.P., the investment manager of the selling securityholder, has voting and investment control of the shares held by the selling securityholder. Anand Parekh is the Chief Executive Officer of Alyeska Investment Group, L.P. and may be deemed to be the beneficial owner of such shares. Mr. Parekh, however, disclaims any beneficial ownership of the shares held by the selling securityholder. The address for the selling stockholder is 77 W. Wacker, Suite 700, Chicago, IL 60601.

(39) Senator Investment Group LP ("Senator") is investment manager of the selling securityholder and may be deemed to have voting and dispositive power with respect to the shares. The general partner of Senator is Senator Management LLC (the "Senator GP"). Douglas Silverman controls Senator GP, and, accordingly, may be deemed to have voting and dispositive power with respect to the shares held by this selling securityholder. Mr. Silverman disclaims beneficial ownership of the shares held by the selling securityholder. The address for the entity is c/o Senator Investment Group LP, 510 Madison Avenue, 28th Floor, New York, New York 10022.

(40) Thomas Wynn is Chief Compliance Officer of Schonfeld Strategic 460 Fund LLC and may be deemed to have voting and dispositive power over the securities held by the selling securityholder. The address for the selling stockholder is 460 Park Avenue, 19th Floor, New York, New York 10022.

(41) Antara Capital LP, a Delaware limited partnership serves as the investment manager (the "Investment Manager") to certain funds it manages and designees and may be deemed to have voting and dispositive power with respect to the ordinary shares held by the Antara Funds (defined below). Antara Capital Fund GP LLC, a Delaware limited liability company, serves as the general partner of Antara Capital Onshore Fund LP (the "Onshore Fund") and Antara Capital Master Fund LP (the "Master Fund"). Antara Capital Offshore Fund Ltd (the "Offshore Fund" and together with the Fund and the Master Fund, the "Antara Funds") is an exempted company incorporated under the laws of the Cayman Islands. Himanshu Gulati is the Managing Member of Investment Manager and, accordingly, may be deemed to have voting and dispositive power with respect to the shares held by the Antara Funds. Mr. Gulati disclaims beneficial ownership of the ordinary shares held by the Antara Funds except to the extent of any pecuniary interest. The business address of the foregoing persons is 500 5th Avenue, Suite 2320, New York, New York 10110.

(42) Danone North America Public Benefit Corporation may be deemed to have voting and dispositive power over the securities held by the selling securityholder. The address for the selling stockholder is 1 Maple Avenue, White Plains, New York 10605.

(43) Massimo Casella, a Nestle manager, was a member of the board of directors of our subsidiary and resigned in connection with the Business Combination. The address for the selling stockholder is 34-40 rue Guynwmwe, R.C.S. Nanterre N° 560 200 537, Issy-les-moulineaux, 92130, France.

(44) PepsiCo, Inc. may be deemed to have voting and dispositive power over the securities held by the selling securityholder. The address for the selling stockholder is 700 Anderson Hill Road, Purchase, New York 10577.

(45) Mitsubishi Gas Chemical Company, Inc. directly holds 45,000 shares of Common Stock. The address for the selling stockholder is Mitsubishi Building 5-2, Marunouchi 2-chome Chiyoda-ku, Tokyo, 1008324, Japan.

(46) AECI Limited may be deemed to have voting and dispositive power over the securities held by the selling securityholder. The address for the selling stockholder is 20 Woodlands Drive, AECI Place, Buildings 23 & 24, Woodmead, Sandton, 2171, South Africa.
(47) Anne M. Smalling, CEO of PMOP GP LLC, is the sole GP of PM Operating, Ltd. Ms. Smalling is the sole member of AMS GP, LLC, which owns 100% of PMOP GP, LLC. The address for Ms. Smalling is 12211 Technology Blvd., Austin, TX 78727.
(48) Kristin P. Millar, Katharine B. Leraris and Jon C. Buff share investing and voting rights for Buff Investment Limited Partnership. The address for the entity is c/o Todd Vanett, Stradley Ronon Stevens & Young, 2005 Market Street, Suite 2600, Philadelphia, PA 19103.
(49) Lior Amram is the sole manager of Evergreen Acquisition I Corp and may be deemed to hold sole voting and dispositive power over the Common Stock shares held by this entity. The principal business address for Mr. Amram is c/o Evergreen Capital, L.P. 551 Fifth Avenue, Suite 2100, New York, New York 10176.
(50) Mr. Bissell is our Co-Chief Executive Officer and a member of our board of directors. Consists of: (i) 634,943 shares of Common Stock held directly; (ii) 683,928 shares of Common Stock issuable upon the achievement of certain earnout provisions; and (iii) 2,429,962 shares of Common Stock issuable upon the exercise of both vested and unvested stock options (“Bissell Options”). Of the Bissell Options: (i) 948,430 shares of Common Stock are currently vested; (ii) 529,119 shares of Common Stock are subject to monthly vesting for 48 months from June 25, 2021 (the “Bissell Vesting Commencement Date”): (iii) 211,647 shares of Common Stock will vest upon achievement of a 10-day $15 trading price during the 3 years following the Bissell Vesting Commencement Date; (iv) 317,471 shares of Common Stock will vest upon achievement of a 10-day $25 trading price during the 5 years following the Bissell Vesting Commencement Date; and (v) 423,295 shares of Common Stock will vest upon achievement of a 10-day $50 trading price during the 5 years following the Bissell Vesting Commencement Date.
(51) Consists of: (i) 189,668 shares of Common Stock held by the Riley Family Trust and (ii) 66,225 shares of Common Stock issuable upon the achievement of certain earnout provisions. Mr. Riley is co-trustee of Riley Family Trust and by virtue of his shared control over Riley Family Trust, may be deemed to beneficially own the shares of Common Stock held by Riley Family Trust. Mr. Riley is our Co-Chief Executive Officer and a member of our board of directors.
(52) Consists of: (i) 229,415 shares of Common Stock held by the Riley Investment Trust I and (ii) 75,210 shares of Common Stock issuable upon the achievement of certain earnout provisions. Mr. Riley is sole trustee of Riley Investment Trust I and may be deemed to hold sole voting and dispositive power over the Common Stock shares held by the selling securityholder. Mr. Riley is our Co-Chief Executive Officer and a member of our board of directors.
(53) Consists of: (i) 707,832 shares of Common Stock held by the Riley Separate Property Trust and (ii) 258,243 shares of Common Stock issuable upon the achievement of certain earnout provisions. Mr. Riley is sole trustee of Riley Separate Property Trust and may be deemed to hold sole voting and dispositive power over the Common Stock shares held by the selling securityholder. Mr. Riley is our Co-Chief Executive Officer and a member of our board of directors.
(54) Mr. Riley is our Co-Chief Executive Officer and a member of our board of directors. Consists of: (i) 344,649 shares of Common Stock issuable upon the achievement of certain earnout provisions and (ii) 2,539,770 shares of Common Stock issuable upon the exercise of both vested and unvested stock options (“Riley Options”). Of the Riley Options: (i) 820,134 shares of Common Stock are currently vested; (ii) 1,190,518 shares of Common Stock are subject to monthly vesting for 36 months from June 25, 2021 (the “Riley Vesting Commencement Date”); (iii) 211,647 shares of Common Stock will vest upon achievement of a 10-day $15 trading price during the 3 years following the Riley Vesting Commencement Date; and (iv) 317,471 shares of Common Stock will vest upon achievement of a 10-day $25 trading price during the 5 years following the Riley Vesting Commencement Date.
(55) Consists of 18,112,500 shares of our Common Stock and 11,326,667 Private Placement Warrants held of record by Artius Acquisition Partners LLC. Mr. Drucker is one of the founding members of Artius Acquisition Partners LLC and shares voting and investment power with respect to the shares and warrants held by Artius Acquisition Partners LLC. The shares and warrants beneficially owned by Artius Acquisition Partners LLC may also be deemed to be beneficially owned by Mr. Drucker. See footnote 62. Also consists of 750,000 shares held of record directly by Mr. Drucker. Mr. Drucker is a member of our board of directors. The address for Mr. Drucker is 3 Columbus Circle, Suite 2215, New York, NY 10019.
(56) Consists of (i) 391,157 shares of Common Stock held by Stephen and Jill Galowitz JTWROS and (ii) 141,039 shares of Common Stock issuable to the selling securityholder subject to certain earnout provisions. Stephen and Jill Galowitz may be deemed to have voting and dispositive power over the securities held by the selling securityholder. Mr. Galowitz is our Chief Commercial Officer.
(57) Consists of: (i) 391,157 shares of Common Stock held by The Galowitz Family 2021 Trust dated February 16, 2021 with Lester E. Lipschutz as Trustee and (ii) 141,039 shares of Common Stock issuable to the selling securityholder upon the achievement of certain earnout provisions. Stephen Galowitz, our Chief Commercial Officer, may be deemed to have voting and dispositive power over the securities held by the selling securityholder.
(58) Mr. Galowitz is our Chief Commercial Officer. Consists of: (i) 266,562 shares of Common Stock issuable upon the achievement of certain earnout provisions and (ii) 634,942 shares of Common Stock issuable upon the exercise of fully vested stock options.
(59) Mr. Lee is our General Counsel. Consists of: (i) 43,698 shares of Common Stock issuable upon the achievement of certain earnout provisions and (ii) 105,823 shares of Common Stock issuable upon the exercise of fully vested stock options.
(60) Mr. Whaley is our Chief Financial Officer. Consists of: (i) 69,486 shares of Common Stock issuable upon the achievement of certain earnout provisions and (ii) 529,119 shares of Common Stock issuable upon the exercise of both vested and unvested stock options (the “Whaley Options”). Of the Whaley Options: (i) 25% of the shares of Common Stock subject to the Whaley Option vested on March 1, 2020 and 1/48th of the shares of Common Stock shall vest on each monthly anniversary thereafter.
(61) Mr. Harvey is a member of our board of directors. Consists of: (i) 66,705 shares of Common Stock issuable upon the achievement of certain earnout provisions and (ii) 158,734 shares of Common Stock issuable upon the exercise of fully vested stock options.

(62) Boon Sim and Charles Drucker are the founding members of Artius Acquisition Partners LLC and together exercise voting and investment power with respect to the securities held by Artius Acquisition Partners LLC. The securities beneficially owned by Artius Acquisition Partners LLC may also be deemed to be beneficially owned by Mr. Sim and Mr. Drucker. Mr. Sim and Mr. Drucker are members of our board of directors. The address for the selling stockholder is 3 Columbus Circle, Suite 2215, New York, NY 10019.

## DESCRIPTION OF OUR SECURITIES

*The following is a summary of the rights of our securities. This summary is qualified by reference to the complete text of our amended and restated certificate of incorporation and amended and restated bylaws filed as exhibits to the registration statement of which this prospectus forms a part.*

The following description summarizes the most important terms of the our capital stock. This summary is qualified by reference to the complete text of our amended and restated certificate of incorporation and bylaws filed as exhibits to the registration statement of which this prospectus forms a part.

**Authorized and Outstanding Stock**

Our authorized capital stock consists of:

- 1,000,000,000 shares of Common Stock, $0.0001 par value per share; and
- 10,000,000 shares of undesignated Preferred Stock, $0.0001 par value per share.

As of February 25, 2022, there were 141,301,569 shares of Common Stock issued and outstanding.

We are authorized, without stockholder approval except as required by the listing standards of Nasdaq, to issue additional shares of our capital stock.

The following statements are summaries only of provisions of our authorized capital stock and are qualified in their entirety by our certificate of incorporation, as amended. You should review these documents for a description of the rights, restrictions and obligations relating to our capital stock. Copies of our certificate of incorporation may be obtained from the Company upon written request.

***Voting Rights***

Holders of our Common Stock are entitled to one vote per share on all matters submitted to a vote of stockholders.

The Certificate of Incorporation prohibits cumulative voting for the election of directors unless otherwise provided by law.

***Dividend Rights***

Subject to preferences that may apply to any shares of Preferred Stock outstanding at the time, the holders of our Common Stock are entitled to receive dividends out of funds legally available if our board of directors, in its discretion, determines to issue dividends and then only at the times and in the amounts that our board of directors may determine.

***No Preemptive or Similar Rights***

Our Common Stock will not be entitled to preemptive rights, and are not subject to conversion, redemption or sinking fund provisions.

***Right to Receive Liquidation Distributions***

If we become subject to a liquidation, dissolution or winding-up, the assets legally available for distribution to the stockholders would be distributable ratably among the holders of our Common Stock and any participating Preferred Stock outstanding at that time, subject to prior satisfaction of all outstanding debt and liabilities and the preferential rights of and the payment of liquidation preferences, if any, on any outstanding shares of Preferred Stock.

***Fully Paid and Non-Assessable***

All of the outstanding shares of our Common Stock are fully paid and non-assessable.

## Preferred Stock

Our board of directors is authorized, subject to limitations prescribed by Delaware law, to issue Preferred Stock in one or more series, to establish from time to time the number of shares to be included in each series, and to fix the designation, vesting, powers, preferences, and rights of the shares of each series and any of its qualifications, limitations, or restrictions, in each case without further vote or action by the stockholders. Our board of directors can also increase or decrease the number of shares of any series of Preferred Stock, but not below the number of shares of that series then outstanding, without any further vote or action by the stockholders.

Our board of directors may authorize the issuance of Preferred Stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our Common Stock. The issuance of Preferred Stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring, or preventing a change in control of the Company and may adversely affect the market price of our Common Stock and the voting and other rights of the holders of our Common Stock. There are no current plans to issue any shares of Preferred Stock.

## Warrants

### *Public Warrants*

Each whole Public Warrant entitles the registered holder to purchase one whole share of our Common Stock at a price of $11.50 per share, subject to adjustment as discussed below, at any time that is 30 days after the completion of the Business Combination. Pursuant to the Warrant Agreement with Continental Stock Transfer & Trust Company dated July 13, 2020 (the “Continental Warrant Agreement”), a warrant holder may exercise its Public Warrants only for a whole number of shares of our Common Stock. The Public Warrants will expire on June 25, 2026, at 5:00 p.m., New York City time, or earlier upon redemption or liquidation.

We will not be obligated to deliver any shares of our Common Stock pursuant to the exercise of a Public Warrant and will have no obligation to settle such warrant exercise unless a registration statement under the Securities Act with respect to the shares of our Common Stock underlying the Public Warrants is then effective and a prospectus relating thereto is current, subject to our satisfying our obligations described below with respect to registration. No Public Warrant will be exercisable and we will not be obligated to issue shares of our Common Stock upon exercise of a Public Warrant unless our Common Stock issuable upon such warrant exercise has been registered, qualified or deemed to be exempt under the securities laws of the state of residence of the registered holder of the Public Warrants.

We have agreed that as soon as practicable, but in no event later than 15 business days, after the closing of the Business Combination, we will use our best efforts to file with the SEC a registration statement for the registration, under the Securities Act, of the shares of our Common Stock issuable upon exercise of the Public Warrants. We will use our best efforts to cause the same to become effective within 60 days of closing, and to maintain the effectiveness of such registration statement, and a current prospectus relating thereto, until the expiration or redemption of the Public Warrants in accordance with the provisions of the Continental Warrant Agreement. Notwithstanding the above, if our Common Stock is at the time of any exercise of a Public Warrant not listed on a national securities exchange such that it satisfies the definition of a “covered security” under Section 18(b)(1) of the Securities Act, we may, at our option, require holders of Public Warrants who exercise their warrants to do so on a “cashless basis” in accordance with Section 3(a)(9) of the Securities Act and pursuant to the terms of the Continental Warrant Agreement and, in the event we so elect, we will not be required to file or maintain in effect a registration statement, but we will be required to use our commercially reasonable efforts to register or qualify the shares under applicable blue sky laws to the extent an exemption is not available.

*Redemption of warrants when the price per share of our Common Stock equals or exceeds $18.00.* Once the Public Warrants become exercisable, we may call the Public Warrants for redemption:

- in whole and not in part;
- at a price of $0.01 per Public Warrant;

- upon not less than 30 days’ prior written notice of redemption (the “30-day redemption period”) to each warrant holder; and
- if, and only if, the reported last sale price of our Common Stock equals or exceeds $18.00 per share for any 20 trading days within a 30-trading day period ending on the third trading day prior to the date on which we send the notice of redemption to the warrant holders.

If and when the Public Warrants become redeemable by us, we may exercise our redemption right even if we are unable to register or qualify the underlying securities for sale under all applicable state securities laws.

We have established the last of the redemption criterion discussed above to prevent a redemption call unless there is at the time of the call a significant premium to the warrant exercise price. If the foregoing conditions are satisfied and we issue a notice of redemption of the Public Warrants, each warrant holder will be entitled to exercise its Public Warrant prior to the scheduled redemption date. However, the price of our Common Stock may fall below the $18.00 redemption trigger price as well as the $11.50 (for whole shares) warrant exercise price after the redemption notice is issued.

*Redemption of warrants when the price per share of our Common Stock equals or exceeds $10.00.* Once the Public Warrants become exercisable, we may call the Public Warrants for redemption:

- 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 determined by reference to the table below, based on the redemption date and the “fair market value” (as defined below) of our Common Stock except as otherwise described below; and
- if, and only if, the closing price of our Common Stock equals or exceeds $10.00 per share (as adjusted for adjustments to the number of shares issuable upon exercise or the exercise price of a warrant as described under the heading “—Warrants—Public Warrants—Anti-Dilution Adjustments”) for any 20 trading days within the 30-trading day period ending three trading days before we send the notice of redemption to the warrant holders.

Beginning on the date the notice of redemption is given until the warrants are redeemed or exercised, holders may elect to exercise their warrants on a cashless basis. The numbers in the table below represent the “redemption prices,” or the number of shares of our Common Stock that a warrant holder will receive upon such cashless exercise in connection with a redemption by us pursuant to this redemption feature, based on the “fair market value” of our Common Stock on the corresponding redemption date (assuming holders elect to exercise their warrants and such warrants are not redeemed for $0.10 per warrant), determined based on the volume- weighted average price of our Common Stock during the 10 trading days immediately following the date on which the notice of redemption is sent to the holders of Public Warrants, and the number of months that the corresponding redemption date precedes the expiration date of the Public Warrants, each as set forth in the table below.

The share prices set forth in the column headings of the table below will be adjusted as of any date on which the number of shares issuable upon exercise of a warrant is adjusted as set forth in the first three paragraphs under the heading “ *—Anti-dilution adjustments*” below. The adjusted stock prices in the column headings will equal the stock prices immediately prior to such adjustment, multiplied by a fraction, the numerator of which is the number of shares deliverable upon exercise of a Public Warrant immediately prior to such adjustment and the denominator of which is the number of shares deliverable upon exercise of a Public Warrant as so adjusted. The number of shares in the table below shall be adjusted in the same manner and at the same time as the number of shares issuable upon exercise of a Public Warrant.

| | Fair Market Value of Common Stock | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Redemption Date (period to expiration of warrants) | ≤ $10.00 | $11.00 | $12.00 | $13.00 | $14.00 | $15.00 | $16.00 | $17.00 | ≥$18.00 |
| 60 months | 0.261 | 0.281 | 0.297 | 0.311 | 0.324 | 0.337 | 0.348 | 0.358 | 0.361 |
| 57 months | 0.257 | 0.277 | 0.294 | 0.310 | 0.324 | 0.337 | 0.348 | 0.358 | 0.361 |
| 54 months | 0.252 | 0.272 | 0.291 | 0.307 | 0.322 | 0.335 | 0.347 | 0.357 | 0.361 |
| 51 months | 0.246 | 0.268 | 0.287 | 0.304 | 0.320 | 0.333 | 0.346 | 0.357 | 0.361 |
| 48 months | 0.241 | 0.263 | 0.283 | 0.301 | 0.317 | 0.332 | 0.344 | 0.356 | 0.361 |
| 45 months | 0.235 | 0.258 | 0.279 | 0.298 | 0.315 | 0.330 | 0.343 | 0.356 | 0.361 |
| 42 months | 0.228 | 0.252 | 0.274 | 0.294 | 0.312 | 0.328 | 0.342 | 0.355 | 0.361 |
| 39 months | 0.221 | 0.246 | 0.269 | 0.290 | 0.309 | 0.325 | 0.340 | 0.354 | 0.361 |
| 36 months | 0.213 | 0.239 | 0.263 | 0.285 | 0.305 | 0.323 | 0.339 | 0.353 | 0.361 |
| 33 months | 0.205 | 0.232 | 0.257 | 0.280 | 0.301 | 0.320 | 0.337 | 0.352 | 0.361 |
| 30 months | 0.196 | 0.224 | 0.250 | 0.274 | 0.297 | 0.316 | 0.335 | 0.351 | 0.361 |
| 27 months | 0.185 | 0.214 | 0.242 | 0.268 | 0.291 | 0.313 | 0.332 | 0.350 | 0.361 |
| 24 months | 0.173 | 0.204 | 0.233 | 0.260 | 0.285 | 0.308 | 0.329 | 0.348 | 0.361 |
| 21 months | 0.161 | 0.193 | 0.223 | 0.252 | 0.279 | 0.304 | 0.326 | 0.347 | 0.361 |
| 18 months | 0.146 | 0.179 | 0.211 | 0.242 | 0.271 | 0.298 | 0.322 | 0.345 | 0.361 |
| 15 months | 0.130 | 0.164 | 0.197 | 0.230 | 0.262 | 0.291 | 0.317 | 0.342 | 0.361 |
| 12 months | 0.111 | 0.146 | 0.181 | 0.216 | 0.250 | 0.282 | 0.312 | 0.339 | 0.361 |
| 9 months | 0.090 | 0.125 | 0.162 | 0.199 | 0.237 | 0.272 | 0.305 | 0.336 | 0.361 |
| 6 months | 0.065 | 0.099 | 0.137 | 0.178 | 0.219 | 0.259 | 0.296 | 0.331 | 0.361 |
| 3 months | 0.034 | 0.065 | 0.104 | 0.150 | 0.197 | 0.243 | 0.286 | 0.326 | 0.361 |
| 0 months | — | — | 0.042 | 0.115 | 0.179 | 0.233 | 0.281 | 0.323 | 0.361 |

The exact fair market value and redemption date may not be set forth in the table above, in which case, if the fair market value is between two values in the table or the redemption date is between two redemption dates in the table, the number of shares of our Common Stock to be issued for each Public Warrant exercised will be determined by a straight-line interpolation between the number of shares set forth for the higher and lower fair market values and the earlier and later redemption dates, as applicable, based on a 365- or 366-day year, as applicable. Finally, as reflected in the table above, we can redeem the Public Warrants for no consideration in the event that the Public Warrants are "out of the money" (i.e., the trading price of our Common Stock is below the exercise price of the Public Warrants) and about to expire.

As stated above, we can redeem the Public Warrants when the shares of our Common Stock are trading at a price starting at $10.00, which is below the exercise price of $11.50, because it will provide certainty with respect to our capital structure and cash position while providing warrant holders with the opportunity to exercise their warrants on a cashless basis for the applicable number of shares. If we choose to redeem the Public Warrants when the our Common Stock is trading at a price below the exercise price of the Public Warrants, this could result in the warrant holders receiving fewer shares of our Common Stock than they would have received if they had chosen to wait to exercise their warrants for our Common Stock if and when such shares of our Common Stock were trading at a price higher than the exercise price of $11.50.

No fractional shares of our Common Stock will be issued upon exercise. If, upon exercise, a holder would be entitled to receive a fractional interest in a share, we will round down to the nearest whole number of the number of shares of our Common Stock to be issued to the holder.

A holder of a warrant may notify us in writing in the event it elects to be subject to a requirement that such holder will not have the right to exercise such warrant, to the extent that after giving effect to such exercise, such person (together with such person's affiliates), to the warrant agent's actual knowledge, would beneficially own in excess of 9.8% (as specified by the holder) of the our Common Stock outstanding immediately after giving effect to such exercise.

*Anti-Dilution Adjustments.* If the number of outstanding shares of our Common Stock is increased by a stock dividend payable in shares of our Common Stock, or by a split-up of shares of our Common Stock or other similar event, then, on the effective date of such stock dividend, split-up or similar event, the number of shares of our Common Stock issuable on exercise of each Public Warrant will be increased in proportion to such increase in the outstanding shares of our Common Stock. A rights offering to holders of our Common Stock entitling holders to purchase shares of our Common Stock at a price less than the fair market value will be deemed a stock dividend of a number of shares of our Common Stock equal to the product of (a) the number of shares of our Common Stock actually sold in such rights offering (or issuable under any other equity securities sold in such rights offering that are convertible into or exercisable for our Common Stock) multiplied by (b) 1 minus the quotient of (x) the price per share of our Common Stock paid in such rights offering divided by (y) the fair market value. For these purposes (i) if the rights offering is for securities convertible into or exercisable for our Common Stock, in determining the price payable for our Common Stock, there will be taken into account any consideration received for such rights, as well as any additional amount payable upon exercise or conversion and (ii) fair market value means the volume weighted average price of our Common Stock as reported during the 10 trading day period ending on the trading day prior to the first date on which the shares of our Common Stock trade on the applicable exchange or in the applicable market, regular way, without the right to receive such rights.

If the number of outstanding shares of our Common Stock is decreased by a consolidation, combination, reverse stock split or reclassification of shares of our Common Stock or other similar event, then, on the effective date of such consolidation, combination, reverse stock split, reclassification or similar event, the number of shares of our Common Stock issuable on exercise of each Public Warrant will be decreased in proportion to such decrease in outstanding shares of our Common Stock.

Whenever the number of shares of our Common Stock purchasable upon the exercise of the Public Warrants is adjusted, as described above, the warrant exercise price will be adjusted by multiplying the warrant exercise price immediately prior to such adjustment by a fraction (x) the numerator of which will be the number of shares of our Common Stock purchasable upon the exercise of the Public Warrants immediately prior to such adjustment, and (y) the denominator of which will be the number of shares of our Common Stock so purchasable immediately thereafter.

In case of any reclassification or reorganization of the outstanding shares of our Common Stock (other than those described above or that solely affects the par value of such shares of our Common Stock), or in the case of any merger or consolidation of us with or into another corporation (other than a consolidation or merger in which we are the continuing corporation and that does not result in any reclassification or reorganization of our outstanding shares of our Common Stock), or in the case of any sale or conveyance to another corporation or entity of the assets or other property of us as an entirety or substantially as an entirety in connection with which we are dissolved, the holders of the Public Warrants will thereafter have the right to purchase and receive, upon the basis and upon the terms and conditions specified in the Public Warrants and in lieu of the shares of our Common Stock immediately theretofore purchasable and receivable upon the exercise of the rights represented thereby, the kind and amount of shares of stock or other securities or property (including cash) receivable upon such reclassification, reorganization, merger or consolidation, or upon a dissolution following any such sale or transfer, that the holder of the Public Warrants would have received if such holder had exercised their Public Warrants immediately prior to such event. If less than 70% of the consideration received by the holders of our Common Stock in such a transaction is payable in the form of securities or shares in the successor entity that is listed for trading on a national securities exchange or is quoted in an established over-the-counter market, or is to be so listed for trading or quoted immediately following such event, and if the registered holder of the Public Warrant properly exercises the Public Warrant within thirty days following public disclosure of such transaction, the warrant exercise price will be reduced as specified in the Continental Warrant Agreement based on the Black- Scholes value (as defined in the Continental Warrant Agreement) of the Public Warrant.

The Public Warrants will be issued in registered form under the Continental Warrant Agreement between Continental Stock Transfer & Trust Company, as warrant agent, and us. You should review a copy of the

Continental Warrant Agreement, which will be filed as an exhibit to the registration statement of which this prospectus is a part, for a complete description of the terms and conditions applicable to the Public Warrants. The Continental Warrant Agreement provides that the terms of the Public Warrants may be amended without the consent of any holder to cure any ambiguity or correct any defective provision, but requires the approval by the holders of at least 65% of the then outstanding Public Warrants to make any change that adversely affects the interests of the registered holders of Public Warrant.

The Public Warrants may be exercised upon surrender of the warrant certificate on or prior to the expiration date at the offices of the warrant agent, with the exercise form on the reverse side of the warrant certificate completed and executed as indicated, accompanied by full payment of the exercise price (or on a cashless basis, if applicable), by certified or official bank check payable to us, for the number of Public Warrants being exercised. The warrant holders do not have the rights or privileges of holders of our Common Stock and any voting rights until they exercise their warrants and receive shares of our Common Stock. After the issuance of shares of our Common Stock upon exercise of the Public Warrants, each holder will be entitled to one vote for each share held of record on all matters to be voted on by stockholders.

No fractional shares will be issued upon exercise of the Public Warrants. If, upon exercise of the Public Warrants, a holder would be entitled to receive a fractional interest in a share, we will, upon exercise, round down to the nearest whole number of shares of our Common Stock to be issued to the warrant holder.

***Private Placement Warrants***

The Private Placement Warrants (including the our Common Stock issuable upon exercise of the Private Placement Warrants) will not, subject to certain limited exceptions, be transferred, assigned or sold by our Sponsor until the earliest to occur of (i) 365 days after the date of the Closing, (ii) the first day after the date on which the closing price of the our Common Stock equals or exceeds $12.00 per share (as adjusted for stock splits, stock dividends, reorganizations, recapitalizations and the like) for any 20 trading days within any 30-trading day period commencing at least 150 days after the date of the Closing, or (iii) the date on which we complete a liquidation, merger, capital stock exchange, reorganization or other similar transaction that results in all of our public stockholders having the right to exchange their our Common Stock for cash, securities or other property; and they will not be redeemable by us so long as they are held by our Sponsor or its permitted transferees. Otherwise, the Private Placement Warrants have terms and provisions that are identical to those of the Public Warrants, including as to exercise price, exercisability and exercise period. If the Private Placement Warrants are held by holders other than our Sponsor or its permitted transferees, the Private Placement Warrants will be redeemable by us and exercisable by the holders on the same basis as the Public Warrants.

If holders of the Private Placement Warrants elect to exercise them on a cashless basis, they would pay the exercise price by surrendering their warrants for that number of shares of our Common Stock equal to the quotient obtained by dividing (x) the product of the number of shares of our Common Stock underlying the warrants, multiplied by the difference between the exercise price of the warrants and the “fair market value” (defined below) by (y) the fair market value. The “fair market value” shall mean the average reported last sale price of the our Common Stock for the 10 trading days ending on the third trading day prior to the date on which the notice of warrant exercise is sent to the warrant agent. The reason that we agreed that these warrants will be exercisable on a cashless basis so long as they are held by the Sponsor or its permitted transferees is because it was not known at the time of issuance whether they would be affiliated with us following the Business Combination. If they remain affiliated with us, their ability to sell our securities in the open market will be significantly limited. We expect to have policies in place that prohibit insiders from selling our securities except during specific periods of time. Even during such periods of time when insiders will be permitted to sell our securities, an insider cannot trade in our securities if such insider is in possession of material non-public information. Accordingly, unlike Public Stockholders who could sell the shares of our Common Stock issuable upon exercise of the Public Warrants freely in the open market, the insiders could be significantly restricted from doing so. As a result, we believe that allowing the holders to exercise such warrants on a cashless basis is appropriate.

## Anti-Takeover Provisions

Some provisions of Delaware law, the Certificate of Incorporation and Bylaws contain provisions that could make the following transactions more difficult: an acquisition by means of a tender offer; an acquisition by means of a proxy contest or otherwise; or the removal of incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in our best interests, including transactions that provide for payment of a premium over the market price for our shares.

These provisions, summarized below, are intended to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of the increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

### *Delaware Law*

We are subject to the provisions of Section 203 of the DGCL regulating corporate takeovers. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years following the date on which the person became an interested stockholder unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, but not the outstanding voting stock owned by the interested stockholder, (i) shares owned by persons who are directors and also officers and (ii) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or subsequent to the date of the transaction, the business combination is approved by the board of directors of the corporation and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock that is not owned by the interested stockholder.

Generally, a business combination includes a merger, asset or stock sale, or other transaction or series of transactions together resulting in a financial benefit to the interested stockholder. An interested stockholder is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of a corporation’s outstanding voting stock. We expect the existence of this provision to have an anti-takeover effect with respect to transactions our board of directors does not approve in advance. We also anticipate that Section 203 may also discourage attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

### *Certificate of Incorporation and Bylaws Provisions*

Our Certificate of Incorporation and Bylaws include a number of provisions that could deter hostile takeovers or delay or prevent changes in control of our management team, including the following:

- *Board of Directors Vacancies.* The Certificate of Incorporation and Bylaws authorize only the board of directors to fill vacant and newly created directorships, unless the board of directors determines by resolution that such vacancies or newly created directorships be filled by the shareholders, or as otherwise provided by law. In addition, the number of directors constituting our board of directors is permitted to be set only by a resolution adopted by the board of directors. These provisions prevent a stockholder from increasing the size of the board of directors and then gaining control of the board of directors by filling the resulting vacancies with its own nominees. This makes it more difficult to change the composition of our board of directors but promotes continuity of management.

- *Classified Board.* The Certificate of Incorporation and Bylaws provide that the board of directors is divided into three classes of directors for a period of time following the Closing of the Business Combination. For more information on the classified board, see the section entitled "Management." Beginning at the 2026 annual meeting of stockholders, all directors will be elected to one-year terms and the board of directors will cease to be classified. The existence of a classified board of directors could discourage a third-party from making a tender offer or otherwise attempting to obtain control of our Company as it is more difficult and time consuming for stockholders to replace a majority of the directors on a classified board of directors.

- *Directors Removed Only for Cause.* The Certificate of Incorporation provides that stockholders may remove directors only for cause while the board of directors remains classified. Beginning at the 2026 annual meeting of stockholders, directors may be removed with or without cause by the stockholders.

- *Supermajority Requirements for Amendments of The Certificate of Incorporation and Bylaws.* The Certificate of Incorporation further provides that the affirmative vote of holders of at least two-thirds of the voting power of all of the then outstanding shares of voting stock will be required to amend certain provisions of the Certificate of Incorporation, including provisions relating to the classified board, the size of the board, removal of directors, special meetings, the liability of directors and indemnification. The affirmative vote of holders of at least two-thirds of the voting power of all of the then outstanding shares of voting stock will be required to amend or repeal the Bylaws, although the Bylaws may be amended by a simple majority vote of our board of directors.

- *Stockholder Action; Special Meeting of Stockholders.* The Certificate of Incorporation and Bylaws provide that special meetings of stockholders may be called only by a majority of the total number of authorized directors (whether or not there exist any vacancies in previously authorized directorships at the time any such resolution is presented to the board of directors for adoption), the chairperson of the board of directors, or any chief executive officer, thus prohibiting a stockholder from calling a special meeting. The Certificate of Incorporation provides that the stockholders may not take action by written consent, but may only take action at annual or special meetings of stockholders. As a result, holders of capital stock would not be able to amend the Bylaws or remove directors without holding a meeting of stockholders called in accordance with the Bylaws. These provisions might delay the ability of stockholders to force consideration of a proposal or for stockholders to take any action, including the removal of directors.

- *Notice Requirements for Stockholder Proposals and Director Nominations.* The Bylaws provide advance notice procedures for stockholders seeking to bring business before the annual meeting of stockholders or to nominate candidates for election as directors at the annual meeting of stockholders. The Bylaws also specify certain requirements regarding the form and content of a stockholder's notice. These provisions might preclude stockholders from bringing matters before the annual meeting of stockholders or from making nominations for directors at the annual meeting of stockholders if the proper procedures are not followed. We expect that these provisions might also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our Company.

- *No Cumulative Voting.* The DGCL provides that stockholders are not entitled to the right to cumulate votes in the election of directors unless a corporation's certificate of incorporation provides otherwise. The Certificate of Incorporation and Bylaws prohibit cumulative voting unless otherwise provided by law.

- *Issuance of Undesignated Preferred Stock.* Our board of directors will have the authority, without further action by the stockholders, to issue up to 10,000,000 shares of undesignated Preferred Stock with rights and preferences, including voting rights, designated from time to time by our board of directors. The existence of authorized but unissued shares of Preferred Stock will enable our board of directors to render more difficult or to discourage an attempt to obtain control of the Company by means of a merger, tender offer, proxy contest, or other means.

- *Choice of Forum.* The Certificate of Incorporation provides that the Delaware Court of Chancery (or, if and only if the the Delaware Court of Chancery lacks subject matter jurisdiction, any state court located within the State of Delaware or, if and only if all such state courts lack subject matter jurisdiction, the federal district court for the District of Delaware) will be the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (1) any derivative claim or cause of action brought on behalf of us; (2) any claim or cause of action for breach of a fiduciary duty owed by any of our current or former director, officer, or other employee to the Company or the our stockholders; (3) any claim or cause of action against us or any current or former director, officer or other employee arising out of or pursuant to any provision of the DGCL, the Certificate of Incorporation or the Bylaws; (4) any claim or cause of action seeking to interpret, apply, enforce or determine the validity of the Certificate of Incorporation or the Bylaws (including any right, obligation or remedy thereunder); (5) any claim or cause of action as to which the DGCL confers jurisdiction on the Delaware Court of Chancery; and (6) any claim or cause of action against us or any current or former director, officer or other employee, governed by the internal affairs doctrine or otherwise related to our 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. The provisions would not apply to claims or causes of action brought to enforce a duty or liability created by the Securities Act, the Exchange Act, or any other claim for which the U.S. federal courts have exclusive jurisdiction. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, the Certificate of Incorporation provides that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act.

While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of the Certificate of Incorporation. This may require significant additional costs associated with resolving such action in other jurisdictions and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions.

**Rule 144**

Pursuant to Rule 144 under the Securities Act (“Rule 144”), a person who has beneficially owned restricted Common Stock or warrants for at least six months would be entitled to sell their securities provided that (i) such person is not deemed to have been one of our affiliates at the time of, or at any time during the three months preceding, a sale and (ii) we are subject to the Exchange Act periodic reporting requirements for at least three months before the sale and has filed all required reports under Section 13 or 15(d) of the Exchange Act during the 12 months (or such shorter period as we were required to file reports) preceding the sale.

Persons who have beneficially owned restricted Common Stock or warrants for at least six months but who are our affiliates at the time of, or at any time during the three months preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of:

- 1% of the total number of shares of our Common Stock then outstanding; or
- the average weekly reported trading volume of our Common Stock during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale.

Sales by our affiliates of under Rule 144 are also limited by manner of sale provisions and notice requirements and to the availability of current public information about us.

**Restrictions on the Use of Rule 144 by Shell Companies or Former Shell Companies**

Rule 144 is not available for the resale of securities initially issued by shell companies (other than business combination related shell companies) or issuers that have been at any time previously a shell company. However, Rule 144 also includes an important exception to this prohibition if the following conditions are met:

- the issuer of the securities that was formerly a shell company has ceased to be a shell company;
- the issuer of the securities is subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act;
- the issuer of the securities has filed all Exchange Act reports and material required to be filed, as applicable, during the preceding 12 months (or such shorter period that the issuer was required to file such reports and materials), other than Form 8-K reports; and
- at least one year has elapsed from the time that the issuer filed current Form 10-type information with the SEC reflecting its status as an entity that is not a shell company.

Common Stock that stockholders of Legacy Origin received in connection with the Business Combination is freely tradable without restriction or further registration under the Securities Act, except for certain shares issued to our affiliates within the meaning of Rule 144.

As of the date of this prospectus, there are 35,476,627 Warrants outstanding, consisting of 24,149,960 Public Warrants, and 11,326,667 Private Placement Warrants. The Public Warrants are freely tradable. In addition, we are obligated to use best efforts to file a registration statement under the Securities Act covering 24,150,000 shares of our Common Stock that may be issued upon the exercise of the Public Warrants no later than 15 business days after the Closing, and cause such registration statement to become effective and maintain the effectiveness of such registration statement until the expiration of the Public Warrants.

**Investor Rights Agreement**

In connection with the Closing of the Business Combination, we entered into the Investor Rights Agreement on June 25, 2021, pursuant to which the holders of Registrable Securities (as defined therein) became entitled to, among other things, customary registration rights, including demand, piggy-back and shelf registration rights. The Investor Rights Agreement also provides that we will pay certain expenses relating to such registrations and indemnify the registration rights holders against (or make contributions in respect of) certain liabilities which may arise under the Securities Act.

For a detailed description of the Investor Rights Agreement, see the section titled "*Certain Relationships and Related Party Transactions—Investor Rights Agreement.*"

**Limitation of Liability and Indemnification**

The Bylaws provide that we will indemnify our directors and officers, and may indemnify its employees and other agents, to the fullest extent permitted by Delaware law.

Delaware law prohibits the Certificate of Incorporation from limiting the liability of our directors for the following:

- any breach of the director's duty of loyalty to us or to our stockholders;
- acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or unlawful stock repurchases or redemptions; and
- any transaction from which the director derived an improper personal benefit.

If Delaware law is amended to authorize corporate action further eliminating or limiting the personal liability of a director, then the liability of our directors will be eliminated or limited to the fullest extent permitted by Delaware law, as so amended. The Certificate of Incorporation does not eliminate a director's duty of care and, in appropriate circumstances, equitable remedies, such as injunctive or other forms of non-monetary relief, remain available under Delaware law. This provision also does not affect a director's responsibilities under any other laws, such as the federal securities laws or other state or federal laws. Under the Bylaws, we can purchase insurance on behalf of any person whom it is required or permitted to indemnify.

In addition to the indemnification required in the Certificate of Incorporation and Bylaws, we have entered into an indemnification agreement with each member of our board of directors and each of our officers. These agreements provide for the indemnification of our directors and officers for certain expenses and liabilities incurred in connection with any action, suit, proceeding or alternative dispute resolution mechanism, or hearing, inquiry or investigation that may lead to the foregoing, to which they are a party or other participant, or are threatened to be made a party or other participant, by reason of the fact that they are or were our director, officer, employee, agent or fiduciary, by reason of any action or inaction by them while serving as an officer, director, agent or fiduciary, or by reason of the fact that they were serving at our request as a director, officer, employee, agent or fiduciary of another entity. In the case of an action or proceeding by or in our right, no indemnification will be provided for any claim where a court determines that the indemnified party is prohibited from receiving indemnification. We believe that these charter and bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers.

The limitation of liability and indemnification provisions that are in the Certificate of Incorporation and Bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against directors and officers, even though an action, if successful, might benefit us and our stockholders. Moreover, a stockholder's investment may be harmed to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

**Exchange Listing**

Our Common Stock and Public Warrants are listed on the Nasdaq Capital Market under the symbols "ORGN" and "ORGNW," respectively.

**Transfer Agent**

The transfer agent for our securities is Continental Stock Transfer & Trust Company. The transfer agent's address is One State Street Plaza, 30th Floor New York, New York 10004.

## MATERIAL UNITED STATES FEDERAL INCOME TAX CONSEQUENCES

The following discussion is a summary of material U.S. federal income tax considerations generally applicable to the purchase, ownership and disposition of our Common Stock and the purchase, exercise, disposition and lapse of our Warrants. The Common Stock and the Warrants are collectively referred to herein as our securities. All prospective holders of our securities should consult their tax advisors with respect to the U.S. federal, state, local and non-U.S. tax consequences of the purchase, ownership and disposition of our securities.

This discussion is not a complete analysis of all potential U.S. federal income tax consequences relating to the purchase, ownership and disposition of our securities. This summary is based upon current provisions of the Code, existing U.S. Treasury Regulations promulgated thereunder, published administrative pronouncements and rulings of the U.S. Internal Revenue Service (the "IRS"), and judicial decisions, all as in effect as of the date of this prospectus. These authorities are subject to change and differing interpretation, possibly with retroactive effect. Any change or differing interpretation could alter the tax consequences to holders described in this discussion. There can be no assurance that a court or the IRS will not challenge one or more of the tax consequences described herein, and we have not obtained, nor do we intend to obtain, a ruling with respect to the U.S. federal income tax consequences to a holder of the purchase, ownership or disposition of our securities.

We assume in this discussion that a holder holds our securities as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all aspects of U.S. federal income taxation that may be relevant to a particular holder in light of that holder's individual circumstances, nor does it address the special tax accounting rules under Section 451(b) of the Code, any alternative minimum, Medicare contribution, estate or gift tax consequences, or any aspects of U.S. state, local or non-U.S. taxes or any non-income U.S. federal tax laws. This discussion also does not address consequences relevant to holders subject to special tax rules, such as holders that own, or are deemed to own, more than 5% of our capital stock (except to the extent specifically set forth below), corporations that accumulate earnings to avoid U.S. federal income tax, tax-exempt organizations, governmental organizations, banks, financial institutions, investment funds, insurance companies, brokers, dealers or traders in securities, commodities or currencies, regulated investment companies or real estate investment trusts, persons that have a "functional currency" other than the U.S. dollar, tax- qualified retirement plans, holders who hold or receive our securities pursuant to the exercise of employee stock options or otherwise as compensation, holders holding our securities as part of a hedge, straddle or other risk reduction strategy, conversion transaction or other integrated investment, holders deemed to sell our securities under the constructive sale provisions of the Code, passive foreign investment companies, controlled foreign corporations, and certain former U.S. citizens or long-term residents.

In addition, this discussion does not address the tax treatment of partnerships (or entities or arrangements that are treated as partnerships for U.S. federal income tax purposes) or persons that hold our securities through such partnerships. If a partnership, including any entity or arrangement treated as a partnership for U.S. federal income tax purposes, holds our securities, the U.S. federal income tax treatment of a partner in such partnership will generally depend upon the status of the partner and the activities of the partnership. Such partners and partnerships should consult their tax advisors regarding the tax consequences of the purchase, ownership and disposition of our securities.

For purposes of this discussion, a "U.S. Holder" means a beneficial owner of our securities (other than a partnership or an entity or arrangement treated as a partnership for U.S. federal income tax purposes) that is, for U.S. federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation, or an entity treated as a corporation for U.S. federal income tax purposes, created or organized in the United States or under the laws of the United States or of any state thereof or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or

- a trust if (a) a U.S. court can exercise primary supervision over the trust's administration and one or more U.S. persons have the authority to control all of the trust's substantial decisions or (b) the trust has a valid election in effect under applicable U.S. Treasury Regulations to be treated as a U.S. person.

For purposes of this discussion, a "non-U.S. Holder" is a beneficial owner of our securities that is neither a U.S. Holder nor a partnership or an entity or arrangement treated as a partnership for U.S. federal income tax purposes.

**Tax Considerations Applicable to U.S. Holders**

***Taxation of Distributions***

If we pay distributions or make constructive distributions (other than certain distributions of our stock or rights to acquire our stock) to U.S. Holders of shares of our Common Stock, such distributions generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Distributions in excess of our current and accumulated earnings and profits will constitute a return of capital that will be applied against and reduce (but not below zero) the U.S. Holder's adjusted tax basis in our Common Stock. Any remaining excess will be treated as gain realized on the sale or other disposition of the Common Stock and will be treated as described under "*—Tax Considerations Applicable to U.S. Holders—Gain or Loss on Sale, Taxable Exchange or Other Taxable Disposition of Common Stock*" below.

Dividends we pay to a U.S. Holder that is a taxable corporation will generally qualify for the dividends received deduction if the requisite holding period is satisfied. With certain exceptions (including dividends treated as investment income for purposes of investment interest deduction limitations), and provided certain holding period requirements are met, dividends we pay to a non-corporate U.S. Holder will generally constitute "qualified dividends" that will be subject to tax at long-term capital gains rates. If the holding period requirements are not satisfied, a corporation may not be able to qualify for the dividends received deduction and would have taxable income equal to the entire dividend amount, and non-corporate holders may be subject to tax on such dividend at ordinary income tax rates instead of the preferential rates that apply to qualified dividend income.

***Gain or Loss on Sale, Taxable Exchange or Other Taxable Disposition of Common Stock***

A U.S. Holder generally will recognize gain or loss on the sale, taxable exchange or other taxable disposition of our Common Stock. Any such gain or loss will be capital gain or loss, and will be long-term capital gain or loss if the U.S. Holder's holding period for the Common Stock so disposed of exceeds one year. The amount of gain or loss recognized will generally be equal to the difference between (1) the sum of the amount of cash and the fair market value of any property received in such disposition and (2) the U.S. Holder's adjusted tax basis in its Common Stock so disposed of. A U.S. Holder's adjusted tax basis in its Common Stock will generally equal the U.S. Holder's acquisition cost for such Common Stock (or, in the case of Common Stock received upon exercise of a Warrant, the U.S. Holder's initial basis for such Common Stock, as discussed below), less any prior distributions treated as a return of capital. Long-term capital gains recognized by non-corporate U.S. Holders are generally eligible for reduced rates of tax. If the U.S. Holder's holding period for the Common Stock so disposed of is one year or less, any gain on a sale or other taxable disposition of the shares would be subject to short-term capital gain treatment and would be taxed at ordinary income tax rates. The deductibility of capital losses is subject to limitations.

***Exercise of a Warrant***

Except as discussed below with respect to the cashless exercise of a Warrant, a U.S. Holder generally will not recognize taxable gain or loss upon the exercise of a Warrant for cash. The U.S. Holder's initial tax basis in the share of our Common Stock received upon exercise of the Warrant will generally be an amount equal to the sum of the U.S. Holder's acquisition cost of the Warrant and the exercise price of such Warrant. It is unclear whether a U.S. Holder's holding period for the Common Stock received upon exercise of the Warrant would commence on the date of exercise of the Warrant or the day following the date of exercise of the Warrant; however, in either case the holding period will not include the period during which the U.S. Holder held the Warrants.

In certain circumstances, the Warrants may be exercised on a cashless basis. The U.S. federal income tax treatment of an exercise of a warrant on a cashless basis is not clear, and could differ from the consequences described above. It is possible that a cashless exercise could be a taxable event. U.S. holders are urged to consult their tax advisors as to the consequences of an exercise of a Warrant on a cashless basis, including with respect to their holding period and tax basis in the Common Stock received upon exercise of the Warrant.

***Sale, Exchange, Redemption or Expiration of a Warrant***

Upon a sale, exchange (other than by exercise), redemption, or expiration of a Warrant, a U.S. Holder will recognize taxable gain or loss in an amount equal to the difference between (1) the amount realized upon such disposition or expiration and (2) the U.S. Holder's adjusted tax basis in the Warrant. A U.S. Holder's adjusted tax basis in its Warrants will generally equal the U.S. Holder's acquisition cost, increased by the amount of any constructive distributions included in income by such U.S. Holder (as described below under "*Tax Considerations Applicable to U.S. Holders—Possible Constructive Distributions*"). Such gain or loss generally will be treated as long-term capital gain or loss if the Warrant is held by the U.S. Holder for more than one year at the time of such disposition or expiration.

If a Warrant is allowed to lapse unexercised, a U.S. Holder will generally recognize a capital loss equal to such holder's adjusted tax basis in the Warrant. Any such loss generally will be a capital loss and will be long- term capital loss if the Warrant is held for more than one year. Because the term of the Warrants is more than one year, a U.S. Holder's capital loss will be treated as a long-term capital loss. The deductibility of capital losses is subject to certain limitations.

***Possible Constructive Distributions***

The terms of each Warrant provide for an adjustment to the number of shares of Common Stock for which the Warrant may be exercised or to the exercise price of the Warrant in certain events, as discussed in the section of this prospectus captioned "Description of our Securities—Redeemable Warrants." An adjustment which has the effect of preventing dilution generally should not be a taxable event. Nevertheless, a U.S. Holder of Warrants would be treated as receiving a constructive distribution from us if, for example, the adjustment increases the holder's proportionate interest in our assets or earnings and profits (e.g., through an increase in the number of shares of Common Stock that would be obtained upon exercise or an adjustment to the exercise price of the Warrant) as a result of a distribution of cash to the holders of shares of our Common Stock which is taxable to such holders as a distribution. Such constructive distribution would be subject to tax as described above under "*Tax Considerations Applicable to U.S. Holders—Taxation of Distributions*" in the same manner as if such U.S. Holder received a cash distribution from us on Common Stock equal to the fair market value of such increased interest.

***Information Reporting and Backup Withholding***

In general, information reporting requirements may apply to dividends paid to a U.S. Holder and to the proceeds of the sale or other disposition of our shares of Common Stock and Warrants, unless the U.S. Holder is an exempt recipient. Backup withholding may apply to such payments if the U.S. Holder fails to provide a taxpayer identification number (or furnishes an incorrect taxpayer identification number) or a certification of exempt status, or has been notified by the IRS that it is subject to backup withholding (and such notification has not been withdrawn).

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules will be allowed as a credit against a U.S. Holder's U.S. federal income tax liability and may entitle such holder to a refund, provided the required information is timely furnished to the IRS. Taxpayers should consult their tax advisors regarding their qualification for an exemption from backup withholding and the procedures for obtaining such an exemption.

### Tax Considerations Applicable to Non-U.S. Holders

***Taxation of Distributions***

In general, any distributions (including constructive distributions) we make to a non-U.S. Holder of shares on our Common Stock, to the extent paid out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles), will constitute dividends for U.S. federal income tax purposes and, provided such dividends are not effectively connected with the non-U.S. Holder's conduct of a trade or business within the United States, we will be required to withhold tax from the gross amount of the dividend at a rate of 30%, unless such non-U.S. Holder is eligible for a reduced rate of withholding tax under an applicable income tax treaty and provides proper certification of its eligibility for such reduced rate (usually on an IRS Form W-8BEN or W-8BEN-E, as applicable). In the case of any constructive dividend (as described below under "*Non-U.S. Holders—Possible Constructive Distributions*"), it is possible that this tax would be withheld from any amount owed to a non-U.S. Holder by the applicable withholding agent, including cash distributions on other property or sale proceeds from Warrants or other property subsequently paid or credited to such holder. Any distribution not constituting a dividend will be treated first as reducing (but not below zero) the non-U.S. Holder's adjusted tax basis in its shares of our Common Stock and, to the extent such distribution exceeds the non-U.S. Holder's adjusted tax basis, as gain realized from the sale or other disposition of the Common Stock, which will be treated as described under "— *Tax Considerations Applicable to Non-U.S. Holders—Gain on Sale, Taxable Exchange or Other Taxable Disposition of Common Stock and Warrants*" below. In addition, if we determine that we are likely to be classified as a "United States real property holding corporation" (see "*Tax Considerations Applicable to Non-U.S. Holders—Gain on Sale, Exchange or Other Taxable Disposition of Common Stock and Warrants*" below), we will withhold 15% of any distribution that exceeds our current and accumulated earnings and profits.

Dividends we pay to a non-U.S. Holder that are effectively connected with such non-U.S. Holder's conduct of a trade or business within the United States (or if a tax treaty applies are attributable to a U.S. permanent establishment or fixed base maintained by the non-U.S. Holder) will generally not be subject to U.S. withholding tax, provided such non-U.S. Holder complies with certain certification and disclosure requirements (generally by providing an IRS Form W-8ECI). Instead, such dividends generally will be subject to U.S. federal income tax, net of certain deductions, at the same individual or corporate rates applicable to U.S. Holders. If the non-U.S. Holder is a corporation, dividends that are effectively connected income may also be subject to a "branch profits tax" at a rate of 30% (or such lower rate as may be specified by an applicable income tax treaty).

***Exercise of a Warrant***

The U.S. federal income tax treatment of a non-U.S. Holder's exercise of a Warrant will generally correspond to the U.S. federal income tax treatment of the exercise of a Warrant by a U.S. Holder, as described under "*—Tax Considerations Applicable to U.S. Holders—Exercise of a Warrant*" above, although to the extent a cashless exercise results in a taxable exchange, the tax consequences to the non-U.S. Holder would be the same as those described below in "*—Tax Considerations Applicable to Non-U.S. Holders—Gain on Sale, Exchange or Other Taxable Disposition of Common Stock and Warrants.*"

***Gain on Sale, Exchange or Other Taxable Disposition of Common Stock and Warrants***

A non-U.S. Holder generally will not be subject to U.S. federal income or withholding tax in respect of gain recognized on a sale, taxable exchange or other taxable disposition of our Common Stock or Warrants or an expiration or redemption of our Warrants, unless:

- the gain is effectively connected with the conduct of a trade or business by the non-U.S. Holder within the United States (and, if an applicable tax treaty so requires, is attributable to a U.S. permanent establishment or fixed base maintained by the non-U.S. Holder);
- the non-U.S. Holder is an individual who is present in the United States for 183 days or more in the taxable year of disposition and certain other conditions are met; or

- we are or have been a "United States real property holding corporation" for U.S. federal income tax purposes at any time during the shorter of the five-year period ending on the date of disposition or the period that the non-U.S. Holder held our Common Stock or Warrants and, in the case where shares of our Common Stock are regularly traded on an established securities market, the non-U.S. Holder has owned, directly or constructively, more than 5% of our Common Stock at any time within the shorter of the five-year period preceding the disposition or such Non-U.S. Holder's holding period for the shares of our Common Stock. These rules may be modified as applied to the Warrants. There can be no assurance that our Common Stock will be treated as regularly traded or not regularly traded on an established securities market for this purpose.

Gain described in the first bullet point above will be subject to tax at generally applicable U.S. federal income tax rates as if the non-U.S. Holder were a U.S. resident. Any gains described in the first bullet point above of a non-U.S. Holder that is a foreign corporation may also be subject to an additional "branch profits tax" at a 30% rate (or lower applicable treaty rate). Gain described in the second bullet point above will generally be subject to a flat 30% U.S. federal income tax. Non-U.S. Holders are urged to consult their tax advisors regarding possible eligibility for benefits under income tax treaties.

If the third bullet point above applies to a non-U.S. Holder and applicable exceptions are not available, gain recognized by such holder on the sale, exchange or other disposition of our Common Stock or Warrants, as applicable, will be subject to tax at generally applicable U.S. federal income tax rates. In addition, a buyer of our Common Stock or Warrants from such holder may be required to withhold U.S. income tax at a rate of 15% of the amount realized upon such disposition. We will be classified as a United States real property holding corporation if the fair market value of our "United States real property interests" equals or exceeds 50% of the sum of the fair market value of our worldwide real property interests plus our other assets used or held for use in a trade or business, as determined for U.S. federal income tax purposes. We do not believe we currently are or will become a United States real property holding corporation, however there can be no assurance in this regard. Non-U.S. Holders are urged to consult their tax advisors regarding the application of these rules.

***Possible Constructive Distributions***

The terms of each Warrant provide for an adjustment to the number of shares of Common Stock for which the Warrant may be exercised or to the exercise price of the Warrant in certain events, as discussed in the section of this prospectus captioned "*Description of our Securities—Warrants*." An adjustment which has the effect of preventing dilution generally should not be a taxable event. Nevertheless, a non-U.S. Holder of Warrants would be treated as receiving a constructive distribution from us if, for example, the adjustment increases the holder's proportionate interest in our assets or earnings and profits (e.g., through an increase in the number of shares of Common Stock that would be obtained upon exercise or an adjustment to the exercise price of the Warrant) as a result of a distribution of cash to the holders of shares of our Common Stock which is taxable to such holders as a distribution. A non-U.S. Holder would be subject to U.S. federal income tax withholding as described above under "*Tax Considerations Applicable to Non-U.S. Holders—Taxation of Distributions*" under that section in the same manner as if such non-U.S. Holder received a cash distribution from us on Common Stock equal to the fair market value of such increased interest.

***Foreign Account Tax Compliance Act***

Provisions of the Code and Treasury Regulations and administrative guidance promulgated thereunder commonly referred as the "Foreign Account Tax Compliance Act" ("FATCA") generally impose withholding at a rate of 30% in certain circumstances on dividends (including constructive dividends) in respect of our securities which are held by or through certain foreign financial institutions (including investment funds), unless any such institution (1) enters into, and complies with, an agreement with the IRS to report, on an annual basis, information with respect to interests in, and accounts maintained by, the institution that are owned by certain U.S. persons and by certain non-U.S. entities that are wholly or partially owned by U.S. persons and to withhold on certain payments, or (2) if required under an intergovernmental agreement between the United States and an applicable foreign country, reports such information to its local tax authority, which will exchange such information with the U.S. authorities. An intergovernmental agreement between the United States and an applicable foreign country may modify these requirements. Accordingly, the entity through which our securities are held will affect the determination of whether such withholding is required. Similarly, dividends in respect of our securities held by an investor that is a non-financial non-U.S. entity that does not qualify under certain exceptions will generally be subject to withholding at a rate of 30%, unless such entity either (1) certifies to us or the applicable withholding agent that such entity does not have any "substantial United States owners" or (2) provides certain information regarding the entity's "substantial United States owners," which will in turn be provided to the U.S. Department of Treasury. Withholding under FATCA was scheduled to apply to payments of gross proceeds from the sale or other disposition of property that produces U.S.-source interest or dividends, however, the IRS released proposed regulations that, if finalized in their proposed form, would eliminate the obligation to withhold on such gross proceeds. Although these proposed Treasury Regulations are not final, taxpayers generally may rely on them until final Treasury Regulations are issued. Prospective investors should consult their tax advisors regarding the possible implications of FATCA on their investment in our securities.

***Information Reporting and Backup Withholding.***

Information returns will be filed with the IRS in connection with payments of dividends and the proceeds from a sale or other disposition of our Common Stock and Warrants. A non-U.S. Holder may have to comply with certification procedures to establish that it is not a United States person in order to avoid information reporting and backup withholding requirements. The certification procedures required to claim a reduced rate of withholding under a treaty generally will satisfy the certification requirements necessary to avoid the backup withholding as well. Backup withholding is not an additional tax. The amount of any backup withholding from a payment to a non-U.S. Holder will be allowed as a credit against such holder's U.S. federal income tax liability and may entitle such holder to a refund, provided that the required information is timely furnished to the IRS.

## PLAN OF DISTRIBUTION

We are registering the issuance by us of up to 35,476,667 shares of Common Stock, consisting of (i)11,326,667 shares of Common Stock that are issuable upon the exercise of 11,326,667 Private Placement Warrants and (ii) 24,150,000 shares of Common Stock that are issuable upon the exercise of 24,150,000 Public Warrants. We are also registering the resale by the selling securityholders or their permitted transferees from time to time of (i) up to 64,832,474 shares of Common Stock (including up to 11,326,667 shares of Common Stock that may be issued upon exercise of the Private Placement Warrants, 6,398,350 shares of Common Stock issuable upon the exercise of stock options and up to 2,150,784 shares of Common Stock issuable as Earnout Shares) and (ii) up to 11,326,667 Private Placement Warrants.

We are required to pay all fees and expenses incident to the registration of the securities to be offered and sold pursuant to this prospectus. The selling securityholders will bear all commissions and discounts, if any, attributable to their sale of securities.

We will not receive any of the proceeds from the sale of the securities by the selling securityholders. We will receive proceeds from Warrants exercised in the event that such Warrants are exercised for cash. The aggregate proceeds to the selling securityholders will be the purchase price of the securities less any discounts and commissions borne by such selling securityholders.

The shares of Common Stock beneficially owned by the selling securityholders covered by this prospectus may be offered and sold from time to time by the selling securityholders. The term “selling securityholders” includes donees, pledgees, transferees or other successors in interest selling securities received after the date of this prospectus from a selling securityholder as a gift, pledge, partnership distribution or other transfer. The selling securityholders will act independently of us in making decisions with respect to the timing, manner and size of each sale. Such sales may be made on one or more exchanges or in the over-the-counter market or otherwise, at prices and under terms then prevailing or at prices related to the then current market price or in negotiated transactions. The selling securityholders may sell their securities by one or more of, or a combination of, the following methods:

- purchases by a broker-dealer as principal and resale by such broker-dealer for its own account pursuant to this prospectus;
- ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- block trades in which the broker-dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- an over-the-counter distribution in accordance with the rules of Nasdaq;
- through trading plans entered into by a selling securityholder pursuant to Rule 10b5-1 under the Exchange Act that are in place at the time of an offering pursuant to this prospectus and any applicable prospectus supplement hereto that provide for periodic sales of their securities on the basis of parameters described in such trading plans;
- short sales;
- distribution to employees, members, limited partners or stockholders of the selling securityholders;
- through the writing or settlement of options or other hedging transaction, whether through an options exchange or otherwise;
- by pledge to secured debts and other obligations;
- delayed delivery arrangements;
- to or through underwriters or broker-dealers;

- in “at the market” offerings, as defined in Rule 415 under the Securities Act, at negotiated prices, at prices prevailing at the time of sale or at prices related to such prevailing market prices, including sales made directly on a national securities exchange or sales made through a market maker other than on an exchange or other similar offerings through sales agents;
- in privately negotiated transactions;
- in options transactions; or
- any other method permitted pursuant to applicable law.

In addition, any securities that qualify for sale pursuant to Rule 144 may be sold under Rule 144 rather than pursuant to this prospectus.

In addition, a selling securityholder that is an entity may elect to make a pro rata in-kind distribution of securities to its members, partners or stockholders pursuant to the registration statement of which this prospectus is a part by delivering a prospectus with a plan of distribution. Such members, partners or stockholders would thereby receive freely tradeable securities pursuant to the distribution through a registration statement. To the extent a distributee is our affiliate (or to the extent otherwise required by law), we may, at our option, file a prospectus supplement in order to permit the distributees to use the prospectus to resell the securities acquired in the distribution.

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution. In connection with distributions of the securities or otherwise, the selling securityholders may enter into hedging transactions with broker-dealers or other financial institutions. In connection with such transactions, broker-dealers or other financial institutions may engage in short sales of the securities in the course of hedging the positions they assume with selling securityholders. The selling securityholders may also sell the securities short and redeliver the securities to close out such short positions. The selling securityholders may also enter into option or other transactions with broker-dealers or other financial institutions that require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). The selling securityholders may also pledge securities to a broker-dealer or other financial institution, and, upon a default, such broker-dealer or other financial institution, may effect sales of the pledged securities pursuant to this prospectus (as supplemented or amended to reflect such transaction).

In effecting sales, broker-dealers or agents engaged by the selling securityholders may arrange for other broker-dealers to participate. Broker-dealers or agents may receive commissions, discounts or concessions from the selling securityholders in amounts to be negotiated immediately prior to the sale.

In offering the securities covered by this prospectus, the selling securityholders and any broker-dealers who execute sales for the selling securityholders may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. Any profits realized by the selling securityholders and the compensation of any broker-dealer may be deemed to be underwriting discounts and commissions.

In order to comply with the securities laws of certain states, if applicable, the securities must be sold in such jurisdictions only through registered or licensed brokers or dealers. In addition, in certain states, the securities may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

We have advised the selling securityholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of securities in the market and to the activities of the selling securityholders and their affiliates. In addition, we will make copies of this prospectus available to the selling securityholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling securityholders may indemnify any broker-dealer that participates in transactions involving the sale of the securities against certain liabilities, including liabilities arising under the Securities Act.

At the time a particular offer of securities is made, if required, a prospectus supplement will be distributed that will set forth the number of securities being offered and the terms of the offering, including the name of any underwriter, dealer or agent, the purchase price paid by any underwriter, any discount, commission and other item constituting compensation, any discount, commission or concession allowed or reallowed or paid to any dealer, and the proposed selling price to the public.

We have agreed to indemnify the selling securityholders against certain liabilities, including liabilities under the Securities Act and state securities laws, relating to the registration of the Warrants or shares of Common Stock offered by this prospectus.

We have agreed with the selling securityholders to keep the registration statement of which this prospectus constitutes a part effective until such time as all of the securities covered by this prospectus have been disposed of pursuant to and in accordance with the registration statement or such securities have been withdrawn or, in the case of shares issued pursuant to the Subscription Agreements, until two years from the effective date of this registration statement.

## LEGAL MATTERS

The validity of the securities offered hereby has been passed upon for us by Cooley LLP.

## EXPERTS

The financial statements of Origin included in this prospectus and registration statement have been so included in reliance upon the report of Grant Thornton LLP ("Grant Thornton"), independent registered public accounting firm, upon the authority of said firm as experts in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act, with respect to the securities being offered by this prospectus. This prospectus, which constitutes part of the registration statement, does not contain all of the information in the registration statement and its exhibits. For further information with respect to Origin and the securities offered by this prospectus, we refer you to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference. You can read our SEC filings, including the registration statement, over the internet at the SEC's website at www.sec.gov.

We are subject to the information reporting requirements of the Exchange Act, and we file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information will be available for review at the SEC's website at www.sec.gov. We also maintain a website at www.originmaterials.com, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not part of this prospectus.

## INDEX TO CONSOLIDATED FINANCIAL INFORMATION

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders

Origin Materials, Inc.

**Opinion on the financial statements**

We have audited the accompanying consolidated balance sheets of Origin Materials, Inc. (a Delaware corporation) and subsidiaries (the "Company") as of December 31, 2021 and 2020, the related consolidated statements of operations and comprehensive income (loss), redeemable convertible preferred stock and stockholders' equity, and cash flows for each of the two years in the period ended December 31, 2021, 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, 2021 and 2020, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2021, in conformity with accounting principles generally accepted in the United States of America.

**Basis for opinion**

These 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 audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the 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 audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the 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 audits 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 audits provide a reasonable basis for our opinion.

**Critical audit matters**

Critical audit matters are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgements. We determined that there are no critical audit matters.

/s/ GRANT THORNTON LLP

We have served as the Company's auditor since 2020.

San Jose, California
March 1, 2022

**ORIGIN MATERIALS, INC.**

**CONSOLIDATED BALANCE SHEETS**

| (In thousands, except share and per share data) | December 31, 2021 | December 31, 2020 |
|---|---|---|
| **ASSETS** | | |
| Current assets | | |
| Cash and cash equivalents | $ 46,637 | $ 1,309 |
| Restricted cash | 490 | 565 |
| Marketable securities | 397,458 | — |
| Other receivables | 2,612 | 48 |
| Derivative asset | 202 | — |
| Prepaid expenses and other current assets | 3,774 | 83 |
| Total current assets | 451,173 | 2,005 |
| Property, plant, and equipment, net | 57,185 | 45,104 |
| Operating lease right-of-use asset | 1,782 | — |
| Intangible assets, net | 215 | 258 |
| Other long-term assets | 62 | 62 |
| **Total assets** | $ 510,417 | $ 47,429 |
| **LIABILITIES AND STOCKHOLDERS' EQUITY** | | |
| Current liabilities | | |
| Accounts payable | $ 2,451 | $ 2,700 |
| Accrued expenses | 973 | 593 |
| Operating lease liability, current | 280 | — |
| Other liabilities, current | 380 | — |
| Derivative liability | 103 | 1,239 |
| Stockholder convertible notes payable | — | 3,232 |
| Total current liabilities | 4,187 | 7,764 |
| PPP Loan | — | 906 |
| Earnout liability | 127,757 | — |
| Canadian Government Research and Development Program Liability | 6,762 | 6,197 |
| Redeemable convertible preferred stock warrants | — | 19,233 |
| Assumed common stock warrants liability | 52,860 | — |
| Stockholder note | 5,189 | 5,189 |
| Related party other liabilities, long-term | 5,720 | 5,517 |
| Operating lease liability | 1,486 | — |
| Other liabilities, long-term | 2,946 | 2,500 |
| Total liabilities | $ 206,907 | $ 47,306 |
| Commitments and contingencies (See Note 19) | | |
| **STOCKHOLDERS' EQUITY** | | |
| Preferred stock, $0.0001 par value, 10,000,000 shares authorized; no shares issued and outstanding as of December 31, 2021 and December 31, 2020 | — | — |
| Common stock, $0.0001 par value, 1,000,000,000 shares authorized; 141,301,569 and 70,266,925, issued and outstanding as of December 31, 2021 and December 31, 2020, respectively (including 4,500,000 Sponsor Vesting Shares) | 16 | 6 |
| Additional paid-in capital | 361,542 | 98,620 |
| Accumulated deficit | (56,797) | (98,887) |
| Accumulated other comprehensive income (loss) | (1,251) | 384 |
| Total stockholders' equity | 303,510 | 123 |
| **Total liabilities and stockholders' equity** | $ 510,417 | $ 47,429 |

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

**ORIGIN MATERIALS, INC.**

**CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME (LOSS)**

| | Year Ended December 31, | |
|---|---|---|
| (In thousands, except share and per share data) | 2021 | 2020 |
| Operating Expenses | | |
| Research and development | $ 9,124 | $ 4,138 |
| General and administrative | 17,265 | 6,563 |
| Depreciation and amortization | 544 | 479 |
| Total operating expenses and loss from operations | 26,933 | 11,180 |
| Other (income) expenses | | |
| Interest income | (1,413) | — |
| Interest expense, net of capitalized interest | 2,838 | 341 |
| Change in fair value of derivatives | 1,326 | 1,088 |
| Change in fair value of warrants liability | 4,525 | 18,498 |
| Change in fair value of earnout liability | (75,488) | — |
| Other income, net | (811) | (805) |
| Total other (income) expenses, net | (69,023) | 19,122 |
| Net income (loss) | $ 42,090 | $ (30,302) |
| Other comprehensive income (loss) | | |
| Unrealized (loss) on marketable securities | (1,712) | — |
| Foreign currency translation adjustment, net of tax | 77 | 794 |
| Total comprehensive income (loss) | $ 40,455 | $ (29,508) |
| Net income (loss) per share, basic | $ 0.42 | $ (0.48) |
| Net income (loss) per share, diluted | $ 0.40 | $ (0.48) |
| Weighted-average common shares outstanding, basic | 101,221,781 | 62,544,933 |
| Weighted-average common shares outstanding, diluted | 106,237,754 | 62,544,933 |

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

## ORIGIN MATERIALS, INC.

## CONSOLIDATED STATEMENTS OF REDEEMABLE

## CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY

## (In Thousands, Except Share Amounts)

| | Redeemable Convertible Preferred Stock | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Series A | | Series B | | Series C | | Common Stock | | Common Stock | | Additional Paid-in Capital | Accumulated Deficit | Accumulated Other Comprehensive Income (loss) | Total Stockholders' Equity |
| | Shares | Amount | Shares | Amount | Shares | Amount | Shares | Amount | Shares | Amount | | | | |
| **BALANCE, December 31, 2019 (as previously reported)** | 13,204,284 | $31,478 | 6,275,704 | $41,125 | 1,590,675 | $23,380 | 1,283,788 | $ — | — | $ — | $ 1,011 | $ (68,585) | $ (410) | $ (67,984) |
| Retrospective application of the recapitalization due to the Business Combination (Note 4) | (13,204,284) | (31,478) | (6,275,704) | (41,125) | (1,590,675) | (23,380) | (1,283,788) | — | 62,542,363 | 6 | 95,977 | — | — | 95,983 |
| Balance at December 31, 2019, effect of Business Combination (Note 4) | — | — | — | — | — | — | — | — | 62,542,363 | 6 | 96,988 | (68,585) | (410) | 27,999 |
| Common stock issued upon exercise of stock options | — | — | — | — | — | — | — | — | 2,912 | — | 2 | — | — | 2 |
| Stock-based compensation | — | — | — | — | — | — | — | — | — | — | 1,630 | — | — | 1,630 |
| Net loss | — | — | — | — | — | — | — | — | — | — | — | (30,302) | — | (30,302) |
| Other comprehensive income | — | — | — | — | — | — | — | — | — | — | — | — | 794 | 794 |
| **BALANCE, December 31, 2020** | — | — | — | — | — | — | — | — | 62,545,275 | 6 | 98,620 | (98,887) | 384 | 123 |
| Reclassification of stockholders' convertible notes payable | — | — | — | — | — | — | — | — | 2,049,191 | — | 20,491 | — | — | 20,491 |
| Reclassification of redeemable convertible preferred stock warrant liability | — | — | — | — | — | — | — | — | 5,554,440 | 7 | 54,267 | — | — | 54,274 |
| Business Combination, net of redemptions and equity issuance costs of $37 million | — | — | — | — | — | — | — | — | 70,981,545 | — | 385,405 | — | — | 385,405 |
| Reclassification of equity to liability related to earn out provisions of Business Combination (see note 13) | — | — | — | — | — | — | — | — | — | — | (203,082) | — | — | (203,082) |
| Common stock issued upon exercise of stock options | — | — | — | — | — | — | — | — | 171,118 | 3 | 74 | — | — | 77 |
| Stock-based compensation | — | — | — | — | — | — | — | — | — | — | 5,767 | — | — | 5,767 |
| Net income | — | — | — | — | — | — | — | — | — | — | — | 42,090 | — | 42,090 |
| Other comprehensive loss | — | — | — | — | — | — | — | — | — | — | — | — | (1,635) | (1,635) |
| **BALANCE, December 31, 2021** | — | — | — | — | — | — | — | — | 141,301,569 | $ 16 | $ 361,542 | $ (56,797) | $ (1,251) | $ 303,510 |

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

**ORIGIN MATERIALS, INC.**

**CONSOLIDATED STATEMENTS OF CASH FLOWS**

| (in thousands) | Year Ended December 31, 2021 | Year Ended December 31, 2020 |
|---|---|---|
| **Cash flows from operating activities** | | |
| Net income (loss) | $ 42,090 | $ (30,302) |
| Adjustments to reconcile net loss to net cash from operating activities: | | |
| Depreciation and amortization | 544 | 479 |
| Amortization on right-of-use asset | 280 | — |
| Stock-based compensation | 5,767 | 1,630 |
| Amortization of debt issuance costs | 14 | 90 |
| Accretion of debt discount | 2,211 | 101 |
| Change in fair value of derivative liability | 1,326 | 1,088 |
| Change in fair value of warrants liability | 4,525 | 18,498 |
| Change in fair value of earnout liability | (75,488) | — |
| Payments on operating lease liabilities | (295) | — |
| Changes in operating assets and liabilities: | | |
| Other receivables | (2,563) | 1,007 |
| Grants receivable | — | 87 |
| Prepaid expenses and other current assets | (3,652) | 53 |
| Increase in other liabilities, current | 380 | — |
| Accounts payable | (395) | 1,203 |
| Accrued expenses | 3,010 | 349 |
| Related party payable | 203 | 256 |
| **Net cash used in operating activities** | (22,043) | (5,461) |
| **Cash flows from investing activities** | | |
| Purchases of property, plant, and equipment, net of grants | (12,268) | (1,786) |
| Purchases of marketable securities | (2,448,316) | — |
| Sales of marketable securities | 2,024,089 | — |
| Maturities of marketable securities | 25,058 | — |
| Capitalized interest on plant construction | (201) | (268) |
| **Net cash used in investing activities** | (411,638) | (2,054) |
| **Cash flows from financing activities** | | |
| Proceeds from stockholders' notes payable, net of debt issuance costs | 11,707 | 3,166 |
| Payment of short-term debt | (906) | — |
| Proceeds from Canadian Government Research and Development Program | 543 | 2,662 |
| Issuance of common stock | 74 | 1 |
| Business combination, net of issuance costs paid | 467,530 | — |
| **Net cash provided by financing activities** | 478,948 | 5,829 |
| Effects of foreign exchange rate changes on the balance of cash and cash equivalents, and restricted cash held in foreign currencies | (14) | (52) |
| **Net increase (decrease) in cash and cash equivalents, and restricted cash** | 45,253 | (1,738) |
| **Cash and cash equivalents, and restricted cash, beginning of the period** | 1,874 | 3,612 |
| **Cash and cash equivalents, and restricted cash, end of the period** | $ 47,127 | $ 1,874 |
| **Supplemental disclosure of cash flow information** | | |
| Conversion of stockholder convertible notes payable to common stock | $ 20,493 | $ — |
| Reclassification of redeemable convertible preferred stock warrants to common stock | $ 54,267 | $ — |
| Reclassification of contingently issued equity to liability | $ 203,082 | $ — |
| Net assets assumed from business combination | $ 81,364 | $ — |
| Debt discount related to derivative liability | $ 2,196 | $ — |
| Business combination transaction costs, accrued but not paid | $ 609 | $ — |
| Operating lease right-of-use assets obtained in exchange for lease obligations | $ 2,062 | $ — |

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

**ORIGIN MATERIALS, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. Organization and Business**

Unless the context otherwise requires, references in these notes to “Origin”, “the Company”, “we”, “us” and “our” and any related terms are intended to mean the post-Business Combination Origin Materials, Inc. and its consolidated subsidiaries.

The Company’s mission to help enable the world’s transition to sustainable materials by replacing petroleum-based materials with decarbonized materials in a wide range of end products, such as food and beverage packaging, clothing, textiles, plastics, car parts, carpeting, tires, adhesives, soil amendments and more. The Company’s technology can convert sustainable feedstocks, such as sustainably harvested wood, agricultural waste, wood waste and corrugated cardboard, into materials and products that are currently made from fossil feedstocks, such as petroleum and natural gas. The Company’s products are intended to compete directly with petroleum-derived products on both performance and price, as well as provide a significant unit cost advantage over products made from other low-carbon feedstocks.

The Company is currently developing and constructing its first manufacturing plant in Ontario, Canada (Origin 1), which is expected to become operational in 2022. The Company is also currently in the planning phase for the construction of a significantly larger manufacturing plant (Origin 2), with which is expected to become operational in 2025.

On June 25, 2021 (the “Closing Date”), Artius Acquisition Inc. (“Artius”), a special purpose acquisition company, consummated the Merger Agreement and other Related Agreements (the “Merger Agreement”) dated February 16, 2021, by and among Artius, Zero Carbon Merger Sub Inc., a Delaware corporation and a wholly owned subsidiary of Artius (“Merger Sub”), and Micromidas, Inc. a Delaware corporation (now known as Origin Materials Operating, Inc.).

Pursuant to the terms of the Merger Agreement, a business combination between Artius and Legacy Origin was effected through the merger of Merger Sub with and into Legacy Origin, with Legacy Origin surviving as the surviving company and as a wholly-owned subsidiary of Artius (the “Merger” and, collectively with the other transactions described in the Merger Agreement, the “Business Combination”). On the Closing Date, Artius changed its name to Origin Materials, Inc. (collectively with its subsidiaries, the “Company”).

For additional information on the Business Combination, please refer to Note 4, *Business Combination*, to these consolidated financial statements.

**2. Risks and Liquidity**

Prior to the Business Combination, the Company primarily financed its operations through the sale of convertible preferred stock, common stock, borrowings under convertible promissory notes and borrowings under loan agreements. The Company now believes that the Business Combination has provided substantial liquidity and that its $444.6 million of cash and cash equivalents, restricted cash, and marketable securities will enable it to fund its planned operations for at least twelve months from the issuance date of these consolidated financial statements.

Beginning in March 2020, the COVID-19 pandemic and the measures imposed to contain this pandemic have disrupted and are expected to continue to impact the Company’s business. The magnitude of the impact of the COVID-19 pandemic on the Company’s productivity, results of operations and financial position, and its disruption to the Company’s business and battery development and timeline, will depend in part, on the length and severity of these restrictions and on the Company’s ability to conduct business in the ordinary course. We continue to monitor the rapidly evolving conditions and circumstances, as well as guidance from international and domestic authorities, including public health authorities, and we may need to take additional actions based on their recommendations. There is considerable uncertainty regarding the impact on our business stemming from current measures and potential future measures that could restrict access to our facilities, limit manufacturing and support operations and place restrictions on our workforce and suppliers. The measures implemented by various authorities related to the COVID-19 outbreak have caused us to change our business practices including those related to where employees work, the distance between employees in our facilities, limitations on in-person meetings between employees and with customers, suppliers, service providers and stakeholders, as well as restrictions on business travel to domestic and international locations or to attend trade shows, investor conferences and other events.

## 3. Summary of Significant Accounting Policies

***Basis of Presentation***

The Company's consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP") as determined by the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") and pursuant to the regulations of the U.S. Securities and Exchange Commission ("SEC").

Pursuant to the Merger Agreement, the merger between Merger Sub and Legacy Origin was accounted for as a reverse recapitalization in accordance with U.S. GAAP (the "Reverse Recapitalization"). Under this method of accounting, Artius was treated as the "acquired" company and Legacy Origin is treated as the acquirer for financial reporting purposes.

Accordingly, for accounting purposes, the Reverse Recapitalization was treated as the equivalent of Legacy Origin issuing stock for the net assets of Artius, accompanied by a recapitalization. The net assets of Artius are stated at historical cost, with no goodwill or other intangible assets recorded.

Legacy Origin was determined to be the accounting acquirer based on the following predominant factors:

- the Company's Board of Directors (the "Board") and management are primarily composed of individuals associated with Legacy Origin;
- Legacy Origin's senior management comprise the senior management roles of the Company and are responsible for the day-to-day operations;
- the Company assume the "doing business as" name of the Legacy Origin; and
- The intended strategy and operations of the Company continue Legacy Origin's current strategy and operations as a carbon negative materials company with a mission to enable the world's transition to sustainable materials.

The consolidated assets, liabilities and results of operations prior to the Reverse Recapitalization are those of Legacy Origin. The shares and corresponding capital amounts and losses per share, prior to the Business Combination, have been retroactively restated based on shares reflecting the Exchange Ratio (as defined below) established in the Business Combination.

***Use of Estimates***

The preparation of the consolidated financial statements in accordance with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of commitments and contingencies at the date of the financial statements as well as reported amounts of expenses during the reporting periods. Estimates made by the Company include, but are not limited to, those related to the valuation of common stock and valuation of convertible preferred stock warrants prior to the Business Combination, valuation of the earnout liability, valuation of assumed common stock warrants liability, carrying amount and useful lives of property and equipment and intangible assets, impairment assessments, marketable securities, stock-based compensation expense, probabilities of achievement of performance conditions on performance stock awards, among others. The Company bases these estimates on historical experience and on various other assumptions that it believes are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying amounts of assets and liabilities that are not readily apparent from other sources. Actual results could differ materially from those estimates.

***Principles of Consolidation***

The consolidated financial statements have been prepared in accordance with U.S. GAAP and applicable rules and regulations of the SEC and include the accounts of the Company and its wholly-owned subsidiaries, Origin Materials Canada Holding Limited, Origin Materials Canada Polyesters Limited, Origin Material Canada Pioneer Limited, Origin Materials Canada Research Limited, and Micromidas, Inc. (now known as Origin Materials Operating, Inc.). All intercompany accounts and transactions have been eliminated in consolidation.

***Concentration of Credit Risk***

Financial instruments that potentially subject the Company to concentrations of credit risk are primarily cash, cash equivalents and marketable securities. The Company maintains its cash, cash equivalents, and marketable securities accounts with a financial institution where, at times, deposits exceed federal insurance limits. Management believes that the Company is not exposed to significant credit risk as the Company's deposits are held at financial institutions that management believes to be of high credit quality. The Company has not experienced any losses on these deposits.

***Cash and Cash Equivalents and Restricted Cash***

The Company considers all highly liquid investments with an initial maturity of three months or less at the date of purchase to be cash equivalents. The Company maintains such funds in cash deposits and money market accounts.

Restricted cash consists of cash held in a control account as collateral for the Company's credit card services, escrow services, and standby letter of credit. These restricted cash balances have been excluded from cash and cash equivalents balance and are included within other current assets in the Consolidated Balance Sheets based on the respective maturity dates.

The Company has an escrow agreement for $1.3 million, whereby the funds would be used for construction and transportation services in connection with Origin 1. At December 31, 2021 and December 31, 2020, the escrow account had a balance of $0.3 million.

The Company has a standby letter of credit, whereby the funds may be used for the completion of work, services, and improvements in connection with Origin 1. The standby letter of credit matures and automatically renews in October of each year. At December 31, 2021 and December 31, 2020, the standby letter of credit was $0.2 million.

Cash, cash equivalents, and restricted cash consisted of the following (in thousands):

| | December 31, 2021 | December 31, 2020 |
|---|---|---|
| Cash and cash equivalents | $ 46,637 | $ 1,309 |
| Restricted cash | $ 490 | $ 565 |
| Total cash, cash equivalents, and restricted cash | $ 47,127 | $ 1,874 |

***Marketable Securities***

The Company's investment policy is consistent with the definition of available-for-sale securities. The Company does not buy and hold securities principally for the purpose of selling them in the near future. The Company's policy is focused on the preservation of capital, liquidity, and return. The Company considers all of its marketable debt securities as available for use in current operations, including those with maturity dates beyond one year, and therefore classifies these securities within current assets on the consolidated balance sheets. Securities are classified as available for sale and are carried at fair value, with the change in unrealized gains and losses, net of tax, reported as a separate component on the consolidated statements of comprehensive income until realized. Fair value is determined based on quoted market rates when observable or utilizing data points that are observable, such as quoted prices, interest rates and yield curves. Securities with an amortized cost basis in excess of estimated fair value are assessed to determine what amount of the excess, if any, is caused by expected credit losses, as required by new accounting pronouncement, Accounting Standards Update No. 2016-13 (“ASU 2016-13”), discussed in further detail below. Expected credit losses on securities are recognized in other income (expense), net on the consolidated statements of operations and comprehensive loss, and any remaining unrealized losses, net of taxes, are included in accumulated other comprehensive loss in the consolidated statement of redeemable convertible preferred stock and stockholders' equity. For the purposes of computing realized and unrealized gains and losses, the cost of securities sold is based on the specific-identification method. Interest on securities classified as available for sale is included as a component of interest income within other income (expense).

The nature of these financial instruments include instruments for which quoted prices are available but traded less frequently, instruments whose fair value has been derived using a model where inputs to the model are directly observable in the market, or can be derived principally from or corroborated by observable market data, and instruments that are fair valued using other financial instruments, the parameters of which can be directly observed. Level 2 financial instruments include agency mortgage-backed securities, corporate fixed income securities infrequently traded, and other securities, which primarily consist of sovereign debt, U.S. government agency securities, loans, and state and municipal securities.

***Derivative Financial Instruments***

The Company evaluated the stockholder convertible notes payable in accordance with ASC 815, *Derivatives and Hedging* and determined that the embedded components of these contracts qualify as a derivative to be separately accounted for as a liability. The Company records the fair value of the embedded components in accordance with ASC 815, *Derivatives and Hedging*. The fair value of the derivatives was calculated using a model that estimated the value that would be paid to transfer the liability in an orderly transaction between market participants at the measurement date. The fair value of the derivative liabilities is revalued on each balance sheet date with a corresponding gain or loss recorded in the Consolidated Statements of Operations and Comprehensive Income (Loss).

The Company enters into foreign currency derivative contracts with financial institutions to reduce foreign exchange risk related to marketable securities. The Company uses forward currency derivative contracts to minimize the Company’s exposure to balances primarily denominated in the British Pound Sterling and Australian Dollar. The Company’s foreign currency derivative contracts, which are not designated as hedging instruments, are used to reduce the exchange rate risk associated primarily with marketable securities. The Company’s derivative financial instruments program is not designated for trading or speculative purposes. Outstanding foreign currency derivative contracts are recorded at fair value on the consolidated balance sheets.

Foreign currency derivative contracts are marked-to-market at the end of each reporting period with gains and losses recognized in the change in fair value of derivatives within other (income) expense. While the contract or notional amount is often used to express the volume of foreign currency derivative contracts, the amounts potentially subject to credit risk are generally limited to the amounts, if any, by which the counterparties’ obligations under the agreements exceed the obligations of the Company to the counterparties. The notional amount of foreign currency derivative contracts as of December 31, 2021 and 2020 was $63.7 million and $0.0 million, respectively.

***Fair Value of Financial Instruments***

The Company applies the fair value measurement accounting standard whenever other accounting pronouncements require or permit fair value measurements. Fair value is defined in the accounting standard as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy under current accounting guidance prioritizes the inputs to valuation techniques used to measure fair value into three broad levels (Level 1, Level 2, and Level 3).

Level 1 inputs are unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date. Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for the asset or liability and reflect the Company’s own assumptions about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk) in a principal market.

The carrying amounts of working capital balances approximate their fair values due to the short maturity of these items. Unless otherwise noted, it is management's opinion that the Company is not exposed to significant interest rate, currency, or credit risks arising from its financial instruments. The fair value of debt approximates its carrying value based on prevailing market rates.

The fair values of the assumed common stock warrants which are publicly traded are level 1 inputs. The fair value of the assumed common stock warrants which are not publicly traded, cash equivalents, marketable securities, and foreign currency derivative contracts are level 2 inputs as the Company uses quoted market prices or alternative pricing sources and models utilizing observable market inputs. The earnout liability, derivative liability and redeemable convertible preferred stock warrant liability were estimated using Level 3 inputs.

***Other Receivables***

Other receivables consist of amounts due from foreign governmental entities related to the Canadian harmonized sales tax (HST) and goods and services tax (GST) for goods and services transacted in Canada, and amounts due from cash collateral held by others for foreign currency derivative contracts.

***AgriScience Grant***

In January 2019, the Company entered into an agreement in which it will participate in the AgriScience Program Cluster Component grant through the Canadian Agricultural Partnership, whereby the Company will receive reimbursements for eligible expenditures up to approximately $2.7 million (in Canadian dollars) through March 2022. Grants are received through reimbursements from the Canadian government and recognized, upon completion of scope of services on a quarterly basis. Grants are recognized as a reduction of property, plant, and equipment or expense based on the nature of the cost the grant is reimbursing. During the year ended December 31, 2021 and 2020 the Company received $0.0 million and $0.2 million in grants, recorded in other income, net on the Consolidated Statements of Operations and Comprehensive Income (Loss).

***Property, Plant, and Equipment***

Property, plant, and equipment are recorded at cost and depreciated or amortized using the straight-line method over the estimated useful lives of the respective assets. Existing useful lives range from three to five years. Leasehold improvements are amortized using the straight-line method over the shorter of their estimated useful lives or the lease term. Major additions and improvements are capitalized, while replacements, repairs, and maintenance that do not extend the life of an asset are charged to operations. Upon retirement or sale, the cost of assets disposed of and the related accumulated depreciation or amortization are removed from the accounts. Costs incurred to acquire, construct or install property, plant, and equipment during the construction stage of a capital project and costs capitalized in conjunction with major improvements that have not yet been placed in service are recorded as construction in progress, and accordingly are not currently being depreciated. The Company capitalizes interest cost incurred on funds used to construct property, plant and equipment. The estimated useful lives of assets are as follows:

| | |
|---|---|
| Computer Equipment | 3 years |
| Office Furniture | 5 years |
| Machinery and Equipment | 5 years |
| Leasehold Improvements | 1-5 years |

***Intangible Assets***

Intangible assets are recorded at cost and are amortized using the straight-line method over the estimated useful lives of the respective assets, ranging from 7 to 15 years. The cost of servicing the Company's patents is expensed as incurred. Upon retirement or sale, the cost of intangible assets is disposed of and the related accumulated amortization is removed from the accounts.

### *Impairment of Long-Lived Assets*

The Company reviews its long-lived assets, including property, equipment, software and intangibles, for impairment whenever events or changes in circumstances indicate that the carrying amounts of the assets may not be fully recoverable. If indicators of impairment exist, management identifies the asset group which includes the potentially impaired long-lived asset, at the lowest level at which there are separate, identifiable cash flows. If the total of the expected undiscounted future net cash flows for the asset group is less than the carrying amount of the asset, a loss is recognized for the difference between the fair value and carrying amount of the asset. For the year ended December 31, 2021 and 2020, no impairment was identified.

### *Government Loans*

Government loans are classified as a noncurrent liability and recorded at amortized cost. Forgiveness of the balances due is recorded through earnings and occurs when there is confirmation from the governmental authority that the Company has complied with the conditions for forgiveness attached to the loan.

### *Debt Issuance Costs*

The costs incurred in connection with the issuance of debt obligations, principally financing and legal costs, are capitalized. These costs are accreted over the term of the debt using the interest method. During the year ended December 31, 2021 and 2020, accretion expense for debt issuance cost was $2.2 million and $0.1 million, respectively.

### *Redeemable Convertible Preferred Stock Warrants Liability*

Free-standing warrants issued by Legacy Origin for the purchase of shares of its convertible preferred stock were classified as liabilities on the accompanying balance sheets at fair value using an Option-Pricing Model (“OPM”). Prior to the Business Combination, the liability recorded was adjusted for changes in the fair value at each reporting date and recorded as interest expense in the accompanying Consolidated Statements of Operations and Comprehensive Income (Loss). As a result of the Business Combination, the Legacy Origin warrants each converted into a warrant to purchase shares of the Company’s Common Stock converted at the Exchange Ratio. The fair value of the warrants upon consummation of the Business Combination (see Note 4), as adjusted based on the price of the underlying Common Stock, was reclassified to additional paid-in capital.

### *Assumed Common Stock Warrants Liability*

The Company assumed 24,150,000 public warrants (the “Public Warrants”) and 11,326,667 private placement warrants (the “Private Placement Warrants”, and the Public Warrants together with the Private Placement Warrants, the “Assumed Common Stock Warrants”) upon the Business Combination, all of which were issued in connection with Artius’ initial public offering and entitle each holder to purchase one share of Class A Common Stock at an exercise price of at $11.50 per share. As of December 31, 2021, 24,150,000 Public Warrants and 11,326,667 Private Placement Warrants are outstanding. The Public Warrants are publicly traded and are exercisable for cash unless certain conditions occur, such as the failure to have an effective registration statement related to the shares issuable upon exercise or redemption by the Company under certain conditions, at which time the warrants may be cashless exercised. The Private Placement Warrants are transferable, assignable or salable in certain limited exceptions. The Private Placement Warrants are exercisable for cash or on a cashless basis, at the holder’s option, and are non-redeemable so long as they are held by the initial purchasers or their permitted transferees. If the Private Placement Warrants are held by someone other than the initial purchasers or their permitted transferees, the Private Placement Warrants will cease to be Private Placement Warrants, and become Public Warrants and be redeemable by the Company and exercisable by such holders on the same basis as the other Public Warrants.

The Company evaluated the Assumed Common Stock Warrants under ASC 815-40, *Derivatives and Hedging-Contracts in Entity’s Own Equity (“ASC 815-40”)*, and concluded they do not meet the criteria to be classified in stockholders’ equity. Specifically, the exercise of the Assumed Common Stock Warrants may be settled in cash upon the occurrence of a tender offer or exchange that involves 50% or more of our Class A stockholders. Because not all of the voting stockholders need to participate in such tender offer or exchange to trigger the potential cash settlement and the Company does not control the occurrence of such an event, the Company concluded that the Assumed Common Stock Warrants do not meet the conditions to be classified in equity. Since the Assumed Common Stock Warrants meet the definition of a derivative under ASC 815, the Company recorded these warrants as liabilities on the Consolidated Balance Sheets at fair value, with subsequent changes in their respective fair values recognized in the change in fair value of Assumed Common Stock Warrant liabilities within the Consolidated Statements of Operations and Comprehensive Income (Loss) at each reporting date. The Public Warrants were publicly traded and thus had an observable market price to estimate fair value, and the Private Placement Warrants were effectively valued similar to the Public Warrants, as described in Note 6.

***Earnout Liability***

The Company has recorded an earnout liability related to future contingent equity shares related to the Business Combination (Note 13). The Company recorded these instruments as liabilities on the Consolidated Balance Sheet at fair value, with subsequent changes in their respective fair values recognized in earnings at each reporting date.

***Leases***

We have operating leases for office space and equipment, some of which have escalating rentals during the initial lease term and during subsequent optional renewal periods. The Company accounts for its leases under ASC 842, *Leases*. We recognize a right-of-use asset and lease liability for operating leases based on the net present value of future minimum lease payments. Lease expense is recognized on a straight-line basis over the non-cancelable lease term and renewal periods that are considered reasonably certain.

***Research and Development Cost***

Costs related to research and development are expensed as incurred.

***Stock-Based Compensation***

The Company has issued common stock awards under three equity incentive plans. Origin measures stock options and other stock-based awards granted to employees, directors and other service providers based on their fair value on the date of grant and recognizes compensation expenses of those awards over the requisite service period, which is generally the vesting period of the respective award. For awards with performance conditions, compensation is recorded once there is sufficient objective evidence the performance conditions are considered probable of being met. Origin applies the straight-line method of expense recognition to all awards with only service-based vesting conditions. Origin estimates the fair value of each stock option grant on the date of grant using the Black-Scholes option-pricing model and the grant date closing stock price for RSU awards and performance awards. The Black-Scholes option-pricing model requires the use of highly subjective assumptions including:

- Expected term – The expected term of the options is based on the simplified method, which takes into consideration the grant’s contractual life and vesting period and assumes that all options will be exercised between the vesting date and the contractual term of the option which averages an award’s vesting term and its contractual term.
- Expected volatility – The Company uses the trading history of various companies in its industry sector in determining an estimated volatility factor.
- Expected dividend – The Company has not declared common stock dividends and does not anticipate declaring any common stock dividends in the foreseeable future.
- Forfeiture – The Company estimates forfeitures based on historical activity and considers voluntary and involuntary termination behavior as well as analysis of actual historical option forfeitures, netting the estimated expense by the derived forfeiture rate.
- Risk-free interest rate – The Company bases the risk-free interest rate on the implied yield currently available on U.S. Treasury zero-coupon issues with the same or substantially equivalent remaining term.

***Income Taxes***

Deferred income taxes are determined using the asset and liability method. Under this method, deferred income tax assets and liabilities are determined based on differences between the financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. A valuation allowance is recorded when the expected recognition of a deferred income tax asset is considered to be unlikely.

The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the tax authorities, based on the technical merits of the position. The tax benefit is measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. The Company recognizes interest and penalties related to income tax matters as a component of income tax expense.

***Functional Currency Translation***

The functional currency of the Company's wholly-owned subsidiaries is the Canadian dollar, whereby their assets and liabilities are translated at period-end exchange rates except for nonmonetary capital transactions and balances, which are translated at historical rates. All income and expense amounts of the Company are translated at average exchange rates for the respective period. Translation gains and losses are not included in determining net loss but are accumulated in a separate component of stockholders' equity. Foreign currency transaction gains and losses are included in the determination of net loss in the period in which they occur. These amounts are included in other income, net, of the Consolidated Statements of Operations and Comprehensive Income (Loss).

***Comprehensive Income (Loss)***

The Company's comprehensive income or loss consists of net income or loss and other comprehensive income (loss). Foreign currency translation gains or losses and unrealized gains or losses on available-for-sale marketable debt securities are included in the Company's other comprehensive income (loss).

***Basic and Diluted Net Income (Loss) Per Share***

Basic net income (loss) per common share is calculated by dividing the net income (loss) attributable to common stockholders by the weighted-average number of common shares outstanding during the period, without consideration of potentially dilutive securities. Diluted net income (loss) per share is computed by dividing the net income (loss) attributable to common stockholders by the weighted-average number of common stock and potentially dilutive securities outstanding for the period. For the purposes of the diluted net income (loss) per share calculation, the convertible preferred stock, common stock options, RSU awards, performance stock awards, convertible preferred stock warrants, common stock warrants, convertible notes, earnout shares, and Sponsor Vesting Shares (as defined below) are considered to be potentially dilutive securities. Basic and diluted net income (loss) per share attributable to common stockholders is presented in conformity with the two-class method required for participating securities. The two-class method determines net income (loss) per share for each class of common and participating securities according to dividends declared or accumulated and participation rights in undistributed earnings. All series of the Company's convertible preferred stock are considered to be participating securities because, in addition to cumulative dividends, all holders are entitled to receive a non-cumulative dividend on a *pari passu* basis in the event that a dividend is paid on the common stock. The two-class method requires income or loss available to common stockholders for the period to be allocated between common and participating securities based upon their respective rights to share in undistributed earnings as if all income or loss for the period had been distributed. The holders of the convertible preferred stock do not have a contractual obligation to share in the Company's losses. Accordingly, the Company's net income (loss) is attributed entirely to common stockholders. For the periods presented that the Company has reported a net loss, diluted net loss per common share is the same as basic net loss per common share for those periods.

***Reclassifications***

Certain amounts in prior periods have been reclassified to conform with the report classifications of the year ended December 31, 2021, noting the Company has reflected the reverse recapitalization pursuant to the Business Combination for all periods presented within the Consolidated Balance Sheets and Consolidated Statements of Redeemable Convertible Preferred Stock and Stockholders' Equity.

***Segment Reporting***

The Company operates in a single segment. Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision maker ("CODM") in making decisions regarding resource allocation and assessing performance. The Company has determined that its Co-Chief Executive Officers are the CODM. To date, the Company's CODM has made such decisions and assessed performance at the Company level.

As of December 31, 2021 and December 31, 2020, the Company had $60.6 million and $45.4 million, respectively, of assets located outside of the United States.

## 4. Business Combination

On June 25, 2021, Artius and Micromidas, Inc. (now known as Origin Materials Operating, Inc., "Legacy Origin") completed the Business Combination pursuant to the Merger Agreement with Legacy Origin surviving the merger as a wholly owned subsidiary of Artius, which became Origin Materials, Inc. Cash proceeds from the Business Combination totaled approximately $467.5 million, which included funds held in Artius's trust account and the completion of the concurrent PIPE and Backstop Financing.

In accordance with the terms and subject to the conditions of the Merger Agreement, at the effective time of the Merger, (i) all shares of Legacy Origin's Series A, Series B, and Series C Preferred Stock, and Common Stock (collectively, "Legacy Origin Stock") issued and outstanding immediately prior to the effective time of the Merger were converted into the right to receive their pro rata portion of shares of Company Common Stock (the "Common Stock") issued as Merger consideration (the "Merger Consideration"); (ii) holders of Legacy Origin's Convertible Notes Payable, plus accrued interest also received shares of Company common stock; (iii) each option exercisable for Legacy Origin Stock that was outstanding immediately prior to effective time of the Merger was assumed and continues in full force and effect on the same terms and conditions as were previously applicable to such options, subject to adjustments to exercise price and number of shares Common Stock issuable upon exercise based on the final conversion ratio calculated in accordance with the Merger Agreement. Additionally, as part of the consideration transferred, stockholders of Legacy Origin and Artius were given the right to additional shares in the Company. These shares vest to the holder upon the share price of the Company reaching certain targets over a future period ("Earnout Shares", see Note 13).

The Company accounted for the Business Combination as a reverse recapitalization, which is the equivalent of Legacy Origin issuing stock for the net assets of Artius, accompanied by a recapitalization, with Artius treated as the acquired company for accounting purposes. The determination of Artius as the "acquired" company for accounting purposes was primarily based on the fact that subsequent to the Business Combination, Legacy Origin will comprise all of the ongoing operations of the combined entity, a majority of the governing body of the combined company and Legacy Origin's senior management will comprise all of the senior management of the combined company. The net assets of Artius were stated at historical cost with no goodwill or other intangible assets recorded. Reported results from operations included herein prior to the Business Combination are those of Legacy Origin. The shares and corresponding capital amounts and loss per share related to Legacy Origin's outstanding convertible preferred stock and common stock prior to the Business Combination have been retroactively restated to reflect the conversion ratio established in the Merger Agreement (1.00 Legacy Origin share for approximately 2.11 shares of the Company, the Exchange Ratio).

In connection with the Business Combination, the Company incurred underwriting fees and other costs considered direct and incremental to the transaction totaling $36.7 million, consisting of legal, accounting, financial advisory and other professional fees. These amounts are reflected within additional paid-in capital in the Consolidated Balance Sheet as of December 31, 2021.

***PIPE Financing***

Concurrent with the execution of the Business Combination, the Company entered into subscription agreements with certain investors (the “PIPE Investors”) pursuant to which the PIPE Investors subscribed for and purchased an aggregate of 20,000,000 shares of Common Stock for an aggregate purchase price of $200.0 million.

***Backstop Agreement***

Concurrent with the execution of the Business Combination, the Company entered into various subscription agreements (the “Subscription Agreements”) with certain current shareholders of the Company or their affiliates (collectively, the “Subscribers”), pursuant to which the Subscribers agreed, subject to certain conditions in the Subscription Agreements, to purchase an aggregate amount of 4,300,001 shares of common stock of the Company, par value $0.0001 per share (the “Subscription Shares”), at $10.00 per share.

***Summary of Net Proceeds***

The following table summarizes the elements of the net proceeds from the Business Combination at the date of acquisition (in thousands):

| | | |
|---|---|---|
| Cash—Trust Account (net of redemptions of $439 million) | $ | 260,448 |
| Cash | | 60 |
| Cash—PIPE & Backstop Financing | | 243,000 |
| Non-cash net assets assumed from Artius | | 40 |
| Less: Fair value of assumed common stock warrants | | (83,370) |
| Less: Underwriting fees and other issuance costs paid prior to the date of acquisition | | (34,773) |
| Additional Paid-in-Capital from Business Combination, net of issuance costs paid | $ | 385,405 |
| Less: Non-cash net assets assumed from Artius | | (40) |
| Add: Non-cash fair value of assumed common stock warrants | | 83,370 |
| Add: Other issuance costs included in accounts payable and accrued liabilities | | 761 |
| Less: Accrued liabilities extinguished through proceeds from Business Combination | | (1,966) |
| Cash proceeds from the Business Combination | $ | 467,530 |

***Summary of Shares Issued***

The following table summarizes the number of shares of Common Stock outstanding immediately following the consummation of the Business Combination:

| | |
|---|---|
| Artius shares outstanding prior to the Business Combination, including 4,500,000 Sponsor Vesting Shares | 90,562,500 |
| Less: redemption of Artius shares | (43,880,956) |
| Shares issued pursuant to the PIPE and Backstop Financing | 24,300,001 |
| Business Combination and PIPE Financing shares, including 4,500,000 Sponsor Vesting Shares | 70,981,545 |
| Conversion of Legacy Origin Series A preferred stock for common stock | 33,783,099 |
| Conversion of Legacy Origin Series B preferred stock for common stock | 19,755,784 |
| Conversion of Legacy Origin Series C preferred stock for common stock | 6,286,349 |
| Conversion of Legacy Origin convertible notes for common stock | 2,049,212 |
| Conversion of Legacy Origin common stock for common stock | 2,838,041 |
| Issuance of common stock upon exercise of warrants | 5,554,440 |
| Total shares of the Company common stock outstanding immediately following the Business Combination | 141,248,470 |

Sponsor Vesting Shares were not included in the above schedule in previous interim period financial statements.

**5. Recent Accounting Pronouncements**

***Recently Adopted Accounting Pronouncements***

In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740)*, to simplify the accounting for income taxes. The new guidance changes various subtopics of accounting for income taxes including, but not limited to, accounting for “hybrid” tax regimes, tax basis step-up in goodwill obtained in a transaction that is not a business combination, intraperiod tax allocation exception to incremental approach, ownership changes in investments, interim-period accounting for enacted changes in tax law, and year-to-date loss limitation in interim-period tax accounting. The Company early adopted the new standard as of January 1, 2021. The adoption of the standard had no material impact on the Company’s financial results.

In February 2016, the FASB issued an ASU 2016-02, *Leases (Topic 842)*, that amends the accounting guidance on leases. The standard establishes a right-of-use (ROU) model that requires a lessee to record an ROU asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. Leases are classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. The FASB also subsequently issued amendments to the standard, including providing an additional and optional transition method to adopt the new standard, described below, as well as certain practical expedients related to land easements and lessor accounting. We adopted this accounting standard effective January 1, 2021, using the optional transition method with no restatement of comparative periods. Therefore, the comparative information has not been adjusted and continues to be reported under ASC Topic 840. Our adoption of the new standard did not result in a cumulative effect adjustment to retained earnings. The adoption had a material effect on the Company’s consolidated financial statements. The most significant effects relate to (1) the recognition of new right-of-use assets and lease liabilities on our consolidated balance sheet for our building leases; and (2) providing significant new disclosures about our leasing activities. The Company also elected the package of practical expedients to leases that commenced before the effective date whereby we elected to not reassess the following:

i. whether any expired or existing contracts contain leases;

ii. the lease classification for any expired or existing leases; and

iii. initial direct costs for any existing leases.

Upon adoption of ASU 2016-02, we did not record right-of-use assets or lease liabilities for leases with an initial term of 12 months or less. Payments on those leases will be recognized on a straight-line basis over the lease term. We elected to combine lease and non-lease components on new or modified leases after adoption. Upon adoption as of January 1, 2021, we recorded $1.8 million in right-of-use assets and operating lease liabilities.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, which requires the measurement and recognition of expected credit losses for financial assets held at amortized cost, and includes the Company's accounts receivable, certain financial instruments and contract assets. ASU 2016-13 results in more timely recognition of credit losses. Effective for our annual period as of January 1, 2021, the Company adopted the provisions and expanded disclosure requirements described in ASU 2016-13. The adoption of ASU 2016-13 was not material to the consolidated financial statements.

***Recently Issued Accounting Pronouncements Not Yet Adopted***

In November 2021, the FASB issued ASU 2021-10, *Government Assistance (Topic 832), Disclosures by Business Entities about Government Assistance*. The FASB issued this update to increase the transparency of government assistance including the disclosure of (1) the types of assistance, (2) an entity's accounting for the assistance, and (3) the effect of the assistance on an entity's financial statements. The main provisions of this update require the following annual disclosures about transactions with a government that are accounted for by applying a grant or contribution accounting model by analogy:

i. Information about the nature of the transactions and the related accounting policy used to account for the transactions

ii. The line items on the balance sheet and income statement that are affected by the transactions, and the amounts applicable to each financial statement line item

iii. Significant terms and conditions of the transactions, including commitments and contingencies.

The Company anticipates this will impact disclosures relating to their AgriScience Grant, PPP Loan, and Canadian Government Research and Development Program Liability. The amendments in this update are effective for the Company in the annual period beginning after December 15, 2021. Early application of the amendments is permitted. The Company has elected to adopt on January 1, 2022.

In October 2021, the FASB issued ASU 2021-08, *Business Combinations (Topic 805), Accounting for Contract Assets and Contract Liabilities from Contracts with Customers*. This update improves the accounting for acquired revenue contracts with customers in a business combination by addressing diversity in practice and inconsistency related to (1) Recognition of an acquired contract liability; and (2) Payment terms and their effect on subsequent revenue recognized by the acquirer. Specifically, the update requires that an entity (acquirer) recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with ASC Topic 606, Revenue from Contracts with Customers. The amendments in this update are effective for the Company in the fiscal year beginning after December 15, 2022, including interim periods within those fiscal years. Early adoption of the amendments is permitted, including adoption in an interim period. The Company does not believe the adoption of this standard will have a material effect on its consolidated financial statements.

In August 2020, the FASB issued ASU 2020-06, *Accounting for Convertible Instruments and Contracts in an Entity's Own Equity*, which simplifies the accounting for certain financial instruments with characteristics of liabilities and equity, including convertible instruments and contracts in an entity's own equity. The guidance is effective for fiscal years beginning on or after December 15, 2021, with early adoption permitted, but no earlier than fiscal years beginning after December 15, 2020. The Company does not believe the adoption of this standard will have a material effect on its consolidated financial statements.

In March 2020, the Financial Accounting Standards Board issued ASU No. 2020-04, *Reference Rate Reform*, which provides temporary optional guidance to companies impacted by the transition away from the London Interbank Offered Rate ("LIBOR"). The guidance provides certain expedients and exceptions to applying U.S. GAAP in order to lessen the potential accounting burden when contracts, hedging relationships, and other transactions that reference LIBOR as a benchmark rate are modified. The provisions of the new standard may be adopted as of the beginning of the reporting period when the election is made until December 31, 2022. The Company does not believe the adoption of this standard will have a material effect on its consolidated financial statements. The Company has elected to adopt on January 1, 2022.

## 6. Fair Value Measurement

The Company's financial assets and liabilities subject to fair value measurements on a recurring basis and the level of inputs used for such measurements were as follows:

| | Fair Value as of December 31, 2021 | | | |
|---|---|---|---|---|
| (in thousands) | Level 1 | Level 2 | Level 3 | Total |
| **Assets:** | | | | |
| Cash, cash equivalents and restricted cash | $ 47,127 | $ — | $ — | $ 47,127 |
| Marketable securities | — | 397,458 | — | 397,458 |
| Derivative asset | — | 202 | — | 202 |
| Total fair value | $ 47,127 | $ 397,660 | $ — | $ 444,787 |
| **Liabilities:** | | | | |
| Assumed common stock warrants (Public) | $ 35,983 | $ — | $ — | $ 35,983 |
| Assumed common stock warrants (Private Placement) | — | 16,877 | — | 16,877 |
| Earnout liability | — | — | 127,757 | 127,757 |
| Derivative liability | — | 103 | — | 103 |
| Total fair value | $ 35,983 | $ 16,980 | $ 127,757 | $ 180,720 |

| | Fair Value as of December 31, 2020 | | | |
|---|---|---|---|---|
| (in thousands) | Level 1 | Level 2 | Level 3 | Total |
| **Assets:** | | | | |
| Cash, cash equivalents and restricted cash | $ 1,874 | $ — | $ — | $ 1,874 |
| Total fair value | $ 1,874 | $ — | $ — | $ 1,874 |
| **Liabilities:** | | | | |
| Redeemable convertible preferred stock warrants liability | $ — | $ — | $ 19,233 | $ 19,233 |
| Derivative liability | — | — | 1,239 | 1,239 |
| | $ — | $ — | $ 20,472 | $ 20,472 |

The Company performs routine procedures such as comparing prices obtained from independent sources to ensure that appropriate fair values are recorded. The marketable securities are categorized as Level 2 instruments as the estimated fair value was determined based on the estimated or actual bids and offers of the marketable securities in an over-the-counter market on the last business day of the period. All of the Company's cash, cash equivalents, restricted cash, marketable securities and foreign currency derivative contracts are classified within Level 1 or Level 2 because the Company's cash, cash equivalents, restricted cash, marketable securities and foreign currency derivative contracts are valued using quoted market prices or alternative pricing sources and models utilizing observable market inputs. Because the transfer of Private Placement Warrants to anyone outside of certain permitted transferees of Artius Acquisition Partners LLC (the "Sponsor") would result in the Private Placement Warrants having substantially the same terms as the Public Warrants, the Company determined that the fair value of each Private Placement Warrant is consistent with that of a Public Warrant. Accordingly, the Private Placement Warrants are classified as Level 2 financial instruments.

The value of the redeemable convertible preferred stock warrants liability and the derivative liability are classified as Level 3 measurements under the fair value hierarchy, as these liabilities have been valued based on significant inputs not observable in the market.

As of December 31, 2021 and December 31, 2020, the carrying values of cash and cash equivalents, accounts payable and accrued liabilities approximate their respective fair values due to their short-term nature.

***Marketable Securities***

The following table summarizes, by major security type, the Company's marketable securities that are measured at fair value on a recurring basis and are categorized using the fair value hierarchy. Amortized cost net of unrealized gain (loss) is equal to fair value as of December 31, 2021. The fair value as of December 31, 2021 is as follows:

| (in thousands) | As of December 31, 2021 | | | |
|---|---|---|---|---|
| **Investments Classified as Marketable Securities** | **Amortized Cost** | **Unrealized Gains** | **Unrealized Losses** | **Fair Value** |
| Corporate bonds | $ 274,939 | $ 100 | $ (1,725) | $ 273,314 |
| Asset-backed securities | 96,713 | 190 | (199) | 96,704 |
| U.S. government and agency securities | 20,235 | — | (64) | 20,171 |
| Foreign government and agency securities | 3,262 | — | (19) | 3,243 |
| Municipal/provincial bonds and other | 4,000 | 5 | — | 4,005 |
| Total | $ 399,149 | $ 295 | $ (2,007) | $ 397,437 |
| Pending purchases and sales | 21 | — | — | 21 |
| Total marketable securities | $ 399,170 | $ 295 | $ (2,007) | $ 397,458 |

Any realized gains and losses and interest income are included in other income on the consolidated statements of operations and comprehensive income (loss).

During the year ended December 31, 2021, we sold marketable securities for proceeds of $2,024.1 million and realized a gain of $0.2 million as a result of those sales. We regularly review our available-for-sale marketable securities in an unrealized loss position and evaluate the current expected credit loss by considering factors such as historical experience, market data, issuer-specific factors, and current economic conditions. The aggregate fair value of the marketable securities in unrealized loss position was $346.3 million as of December 31, 2021, none of which have been in the continuous unrealized loss for more than twelve months. The unrealized losses were attributable to changes in interest rates that impacted the value of the investments, and not increased credit risk. Accordingly, we have not recorded an allowance for credit losses associated with these investments.

The contractual maturities of the investments classified as marketable securities are as follows (in millions):

| (in thousands) | **Mature within one year** | **Mature after one year through two years** | **Mature over two years** | **Fair Value** |
|---|---|---|---|---|
| Corporate bonds | $ 92,559 | $ 134,199 | $ 46,556 | $ 273,314 |
| Asset-backed securities | — | 2,000 | 94,704 | 96,704 |
| U.S. government and agency securities | — | 7,995 | 12,176 | 20,171 |
| Foreign government and agency securities | 2,877 | — | 366 | 3,243 |
| Municipal/provincial bonds and other | 2,002 | 2,003 | — | 4,005 |
| Total | $ 97,438 | $ 146,197 | $ 153,802 | $ 397,437 |
| Pending purchases and sales | | | | 21 |
| Total marketable securities | $ 97,438 | $ 146,197 | $ 153,802 | $ 397,458 |

***Redeemable Convertible Preferred Stock Warrant Liability***

In connection with the issuance of Series A preferred stock during 2012, the Company issued preferred stock warrants to purchase 1,000,000 shares of Series A preferred stock at an exercise price of $2.7233 per share. These warrants were initially exercisable any time within 10 years of issuance. In November 2019, as part of the Bridge

Notes issuance (see Note 11), these Series A preferred stock warrants had their contractual exercise period extended 10 years to October 2032.

In connection with the issuance of Series A preferred stock during 2015, the Company issued preferred stock warrants to purchase 1,134,653 shares of Series A preferred stock at an exercise price of $2.7233 per share. These warrants were initially exercisable any time within 10 years of issuance. In November 2019, as part of the Bridge Notes issuance (see Note 11), these Series A preferred stock warrants had their contractual exercise period extended 10 years to October 2035.

In connection with the issuance of Series A preferred stock during April 2016, the Company issued a preferred stock warrant to purchase 122,400 shares of Series A preferred stock at an exercise price of $2.7233 per share. This warrant is exercisable and expires in April 2036.

In connection with the issuance of convertible promissory notes in 2016, the Company in 2016 and 2017 issued preferred stock warrants to purchase 331,927 and 35,412 shares, respectively, of Series B preferred stock at an exercise price of $7.486 per share. These preferred stock warrants are exercisable and expire from June through July 2026 and June 2036 through January 2037.

At December 31, 2020, the fair value of the preferred stock warrants was determined using the probability-weighted expected return method which estimates the fair value of the warrants through an analysis of future values for the Company, assuming various future outcomes. A Black-Scholes option pricing model (BSM) is utilized in this method, to the extent necessary, based on current conditions. A summary of key assumptions in the BSM for determining the fair value of redeemable convertible preferred stock warrants include:

| | December 31, 2020 |
|---|---|
| Expected life (years) | 3.00 |
| Risk-free interest rate | 0.17 % |
| Expected volatility | 70.00 % |
| Dividend yield | 0 % |

The preferred stock warrants were reclassified to equity through the closing of the Business Combination (see Note 4).

***Derivative Asset and Liabilities***

Beginning in the year ended December 31, 2021, the Company entered into foreign currency derivative contracts with financial institutions to reduce foreign exchange risk related to marketable securities. Foreign currency derivative contracts are marked-to-market at the end of each reporting period with gains and losses recognized as other income (expense). During the year ended December 31, 2021, the Company recognized a net gain of $0.1 million on the fair value adjustment of the foreign currency derivative contracts.

The following table sets forth a summary of the activities of the Company’s redeemable convertible preferred stock warrant liability and embedded components of the stockholder convertible notes payable, which represents a recurring measurement that is classified within Level 3 of the fair value hierarchy wherein fair value is estimated using significant unobservable inputs:

| *Redeemable Convertible Preferred Stock Warrant* | Years Ended December 31, | |
|---|---|---|
| (in thousands) | 2021 | 2020 |
| **Beginning warrant liability balance** | $ 19,233 | $ 735 |
| Change in fair value of warrants liability | 35,034 | 18,498 |
| Reclassification to APIC upon recapitalization | (54,267) | — |
| **Ending warrant liability balance** | $ — | $ 19,233 |

| *Embedded Derivative - Stockholder Convertible Notes Payable* | Years Ended December 31, | |
|---|---|---|
| (in thousands) | 2021 | 2020 |
| **Beginning derivative liabilities balance** | $ 1,238 | $ 150 |
| Change in fair value | (1,238) | 1,088 |
| **Ending derivative liabilities balance** | $ — | $ 1,238 |

## 7. Property, Plant and Equipment

Property, plant, and equipment consisted of the following:

| (in thousands) | December 31, 2021 | December 31, 2020 |
|---|---|---|
| Land | $ 912 | $ 39 |
| Pilot plant | 5,517 | 5,237 |
| Lab equipment | 2,227 | 1,958 |
| Machinery and equipment | 655 | 655 |
| Computer and other equipment | 388 | 295 |
| Construction in process | 55,026 | 43,962 |
| | 64,725 | 52,146 |
| Less accumulated depreciation and amortization | (7,540) | (7,042) |
| Total property, plant, and equipment, net | $ 57,185 | $ 45,104 |

For the year ended December 31, 2021 and 2020, depreciation expense totaled $0.5 million.

At December 31, 2021 and December 31, 2020, the Company capitalized $0.9 million and $0.7 million, respectively, of interest cost into Origin 1. At December 31, 2021 and December 31, 2020 a cumulative translation adjustment of $(0.1) million and $0.9 million, respectively, is included in total property, plant, and equipment as a result of foreign currency transaction gains and losses.

## 8. Intangible Assets

Intangible assets consisted of the following:

| (in thousands) | December 31, 2021 | December 31, 2020 |
|---|---|---|
| Patents | $ 432 | $ 430 |
| Less accumulated amortization | (217) | (172) |
| | $ 215 | $ 258 |

The weighted average useful life of the intangible assets was 9.87 years. For the year ended December 31, 2021 and 2020, amortization expense was $0.0 million.

## 9. Consortium Agreement

The Company has entered into consortium agreements with counterparties to collaborate on development of a process to commercialize bio-based, decarbonizing materials for application on an industrial scale at a competitive price. Under the consortium agreement, the Company received $0.5 million. The agreements expire once performance of the research and development program has been completed. At the time the consortium agreements were entered into, several of the counterparties were related parties (Note 11).

In 2020, an additional counterparty, that is an unrelated party, was added to the consortium agreement. During the year ended December 31, 2021 and 2020, the Company received $0.5 million and $0.6 million, respectively, under the consortium agreement which was recorded as other income, net in the Consolidated Statements of Operations and Comprehensive Income (Loss).

## 10. PPP Loan

In April 2020, the Company executed a promissory note (the “PPP Note”) evidencing an unsecured loan in the amount of $0.9 million under the Paycheck Protection Program (the “PPP Loan”). The Paycheck Protection Program (or “PPP”) was established under the Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”) and is administered by the U.S. Small Business Administration (“SBA”). The Loan has been made through First Republic Bank (the “Lender”).

The PPP Loan had a two-year term and bore interest at a rate of 1.00% per annum, accruing upon funding. Unless the PPP Loan is forgiven, the Company was required to make monthly payments of principal and interest to the Lender. The Company did not intend to seek forgiveness of the PPP loan.

The PPP Note contained customary events of default relating to, among other things, payment defaults, providing materially false and misleading representations to the SBA or Lender, or breaching the terms of the PPP Loan documents. The occurrence of an event of default may result in the immediate repayment of all amounts outstanding, collection of all amounts owing from the Company, or filing suit and obtaining judgment.

Under the terms of the CARES Act, PPP Loan recipients can apply for and be granted forgiveness for all or a portion of the loan granted under the PPP. Such forgiveness will be determined, subject to limitations, based on the use of loan proceeds for payment of payroll costs and any payments of mortgage interest, rent, and utilities.

The PPP Loan was paid in full during the year ended December 31, 2021.

## 11. Related Party Transactions

***Consortium Agreements***

In December 2016, the Company entered into a consortium agreement (Note 9) with two Legacy Origin Series B preferred stock investors to collaborate on development of a process to commercialize bio-based, decarbonizing materials for application on an industrial scale at a competitive price. Under the consortium agreement, the Company received $0.5 million. The agreement expires once performance of the research and development program has been completed.

In August 2018, the agreement was amended, whereby a Legacy Origin Series C preferred stock investor (the “Legacy Origin Series C Investor”, and collectively with the two Legacy Origin Series B investors, the “Legacy Origin Investors”) was added to the agreement and committed to invest $1.5 million of research and development in the consortium. As of December 31, 2021, the Legacy Origin Series C Investor had not invested any funds in the consortium.

***Offtake Agreements***

The Company maintains four separate offtake supply agreements (the “Offtake Agreements”). All are with Legacy Origin stockholders or affiliates of Legacy Origin stockholders. Pursuant to the Offtake Agreements, the Company will construct manufacturing plants with specific capacity and product quality requirements within certain timeframes for the manufacture of product for sale to the counterparties to the agreements, and the counterparties will make minimum annual purchases at a set price, subject to adjustments, all as defined in the agreements.

The Offtake Agreements allow the customers to terminate the agreements if specified construction and product delivery requirements are not satisfied. For example, under two of these agreements, if Origin 1 has not commenced commercial operation by December 31, 2021 or Origin has not delivered specified product volume from Origin 1 by September 30, 2022, then the customer may terminate the agreement and any outstanding secured promissory notes resulting from advance payments made to Origin will become due immediately (see Note 12). These outstanding obligations, together with accrued interest, totaled an aggregate of $10.9 million and $10.7 million as of December 31, 2021 and December 31, 2020 respectively (see Note 12). These agreements also require the Company to pay liquidated damages up to an aggregate of $0.9 million if Origin 1 has not commenced commercial operation by December 31, 2020 or the Company has not delivered specified product volume from Origin 1 by September 30, 2021. In November 2021, one counterparty agreed to waive compliance with the milestones and their right to liquidated damages until June 30, 2022 and in December 2021 the other counterparty agreed to waive compliance with the milestones and their right to liquidated damages until March 31, 2022. A third offtake agreement is terminable by the customer if commercial operation or delivery of product from Origin 1 has not occurred by December 31, 2022.

The Company believes enforcement of the liquidated damages provisions was not probable and expects to secure amendments to these offtake agreements pursuant to its ongoing discussions with these customers. However, the Company cannot guarantee that it will be successful in amending these offtake agreements.

One of the Offtake Agreements provides the counterparty the option, exercisable within 1 year of the first delivery of product from Origin 1, to enter into a contract to purchase a range of quantities of product from Origin 2 for a maximum term of 10 years. If the option is exercised and the Company directly or indirectly constructs Origin 2, the Company must either enter into an agreement with the counterparty within 90 days or pay a fee. There are no impacts to these consolidated financial statements from this stipulation.

***Stockholder Convertible Notes Payable***

In November 2019, the Company entered into secured convertible note agreements (“Bridge Notes”) with certain Legacy Origin preferred stockholders, whereby the Company can borrow up to $6.0 million. The Bridge Notes bore an annual interest rate of 10% and matured on March 31, 2021, unless converted. If the Company issues shares of a new series of preferred stock prior to maturity, the outstanding principal and unpaid accrued interest will convert at 70% of the per share price of the new series of preferred stock. Upon a liquidation event, as defined in the agreements, the Company would be required to repay purchasers in cash an amount equal to 200% of the outstanding principal amount plus the outstanding principal and accrued interest. The Bridge Notes were collateralized by substantially all of the Company’s assets. At December 31, 2020, there was $3.2 million, outstanding on the Bridge Notes. The conversion and liquidation features were deemed to be derivatives under ASC 815 (see Note 6) and separately measured and recognized from the Bridge Notes through a debt discount.

In January of 2021, the Company amended the Bridge Notes to extend the maturity date from March 31, 2021 to September 30, 2021. The amendment also added a SPAC transaction to the conversion provision such that the Bridge Notes convert if the Company issues at least $50 million of shares of a new series of preferred stock or closes a SPAC transaction (each a “Qualified Financing”) prior to maturity. In a Qualified Financing that is a preferred stock issuance, the notes convert at 70% of the cash price paid per share for the preferred shares. In a Qualified Financing that is a SPAC transaction, the notes convert at the lesser of (i) 70% of the per share value attributed to the shares of the Company’s common stock as set forth in the Merger Agreement or (ii) the per share value that would be attributed to the Company’s common stock assuming a pre-transaction valuation of the Company in connection with the SPAC transaction of $700 million. These notes fully converted into the Company common stock upon consummation of the Business Combination (see Note 4).

In February of 2021 the Company issued $10.0 million of new, unsecured convertible notes (the “Convertible Notes”). The Convertible Notes bore an annual interest rate of 8% and mature on September 30, 2021, unless converted. If the Company issues at least $50 million worth of shares of a new series of preferred stock prior to maturity or closes a SPAC transaction (each a "Qualified Financing"), the outstanding principal and unpaid accrued interest will convert at 80% of the per share price of the new series of preferred stock or, in the case of a SPAC transaction, at 80% of the per share value attributed to the shares of the Company's common stock as set forth in the Merger Agreement. Upon a Change of Control (other than a Qualified Financing), as defined in the Convertible Notes, the Company will repay purchasers in cash an amount equal to the outstanding principal and accrued interest plus a repayment premium equal to 100% of the outstanding principal amount of the notes. Debt issuance costs are recorded against the outstanding payable balance. These notes fully converted into the Company common stock upon consummation of the Business Combination (see Note 4).

***Legacy Stockholder Note***

In November 2016, the Company received a $5.0 million prepayment from a Legacy Origin stockholder for product from Origin 1 pursuant to an Offtake Agreement (see Note 11). The prepayment was to be credited against the purchase of products over the term of the Offtake Agreement. The prepayment was secured by a promissory note (the "Promissory Note") to be repaid in cash in the event that the prepayment could not be credited against the purchase of product, for example, if Origin 1 was never constructed. The Promissory Note was collateralized substantially by Origin 1 and other assets of Origin Material Canada Pioneer Limited. In May 2019, the Company and legacy stockholder amended the Offtake Agreement and Promissory Note. The amendment added accrued interest of $0.2 million to the principal balance of the prepayment and provided for the prepayment amount to be repaid in three annual installments rather than being applied against the purchase of product from Origin 1. The Promissory Note would bear interest at 3.50% per annum and be repaid in three installments of $2.2 million, $2.1 million, and $2.1 million (inclusive of accrued but unpaid interest) on December 20, 2024, December 19, 2025, and December 18, 2026, respectively. At December 31, 2021 and December 31, 2020, the total debt principal outstanding was $5.2 million.

***Legacy Related Party Other Liabilities, Long-term***

In November 2016, the Company received a $5.0 million prepayment from a legacy stockholder for product from Origin 1 pursuant to an Offtake Agreement (see Note 11). The prepayment is to be credited against the purchase of products from Origin 1 over the term of the Offtake Agreement. Specifically, repayment is effected by applying a credit to product purchases each month over the first five years of operation of Origin 1 up to $7.5 million, which is equal to 150% of the prepayment amount. If product purchases are not sufficient to recover the advances, the application of the credit to purchases as payment of the advances will continue until fully repaid. The prepayment is secured by a note to be repaid in cash in the event the prepayment cannot be credited against the purchase of product, for example, if Origin 1 is never constructed. The note is collateralized substantially by Origin 1 and other assets of Origin Material Canada Pioneer Limited. If repaid in cash, the note bears an annual interest rate of the three-month London Interbank Offered Rate (LIBOR) plus 0.25% (0.38% at December 31, 2021) and matures five years from the commercial operation date of Origin 1. At December 31, 2021 and December 31, 2020 the total note principal outstanding was $5.1 million and accrued interest outstanding was $0.1 million.

## 12. Other Liabilities, Long-term

In September 2019, the Company entered into a $5.0 million prepayment agreement with a counterparty for the purchase of products from Origin 2. The prepayment is to be made in two equal installments: the first $2.5 million was in October 2019 and the remaining $2.5 million is due within 30 days of the customer confirming that a sample from Origin 1 meets the customer's specifications. The Company and customer agreed to work in good faith to execute an Offtake Agreement, the agreed terms of which are set forth in the prepayment agreement, whereby 100% of the prepayment will be applied against future purchases. The prepayment agreement provides the customer a capacity reservation of up to a specified annual volume of product from Origin 1 for a term of ten years, pursuant to the terms of an Offtake Agreement. At December 31, 2021 and December 31, 2020, the total amount outstanding on this agreement was $2.5 million.

## 13. Earnout Liability

As additional consideration for the Merger, within ten (10) Business Days after the occurrence of a Triggering Event, the Company shall issue or cause to be issued to each Legacy Origin and Artius Holder the number of shares of the Company Class A Common Stock equal to the product of (i) the number of shares of Company Common Stock, Company Series A Preferred Stock, Company Series B Preferred Stock, Company Series C Preferred Stock, and the net number of shares of Company Capital Stock that would be issuable in respect of Vested Company Options in the event such options were exercised (on a net exercise basis with respect to only the applicable exercise price, immediately prior to the Closing and settled in the applicable number of shares of Company Common Stock, rounded down to the nearest whole share) held by such Legacy Origin Holder as of immediately prior to the Effective Time; and (ii) the Earnout Exchange Ratio (such issued shares of Artius Class A Common Stock, collectively, the “Earnout Shares”). Notwithstanding anything to the contrary herein, in no event shall Artius be required to issue more than 25,000,000 Earnout Shares in the aggregate. A Triggering Event is defined as the following:

(a) the volume weighted average price of Common Stock ("VWAP") equaling on exceeding $15.00 for ten (10) consecutive trading days during the three (3) year period following the Closing Date;

(b) the VWAP equaling or exceeding $20.00 for ten (10) consecutive trading days during the four (4) year period following the Closing Date; or

(c) the VWAP equaling or exceeding $25.00 for ten (10) consecutive trading days during the five (5) year period following the Closing Date.

A Sponsor Letter Agreement was delivered in connection with the Merger such that 4,500,000 million of the shares held by Sponsor (“Sponsor Vesting Shares”) shall be subject forfeiture based on the same vesting requirements as the Earnout Shares. These shares shall not be transferred prior to the date in which they vest. Dividends and other distributions with respect to Sponsor Vesting Shares shall be set aside by the Company and shall be paid to the Sponsor upon the vesting of such Sponsor Vesting Shares.

The Company evaluated the Earnout Liability under ASC 815-40, *Derivatives and Hedging-Contracts in Entity’s Own Equity (“ASC 815-40”)*, and concluded they do not meet the criteria to be classified in stockholders’ equity. Specifically, there are contingent exercise provisions and settlement provisions that exist. Holders may receive differing amounts of shares depending on the company’s stock price or the price paid in a change of control. It is noted that all remaining shares would be issuable (or the forfeiture provisions would lapse) upon any change of control involving the company and all remaining shares would be issuable (or the forfeiture provisions would lapse) upon a bankruptcy or insolvency of the company. This means that settlement is not solely impacted by the share price of the Company (that is, the share price observed in or implied by a qualifying change-in-control event), but also by the occurrence of a qualifying change-in-control event. This causes the arrangement to not be indexed to the Company’s own shares and liability classification is appropriate. The Company recorded these instruments as liabilities on the consolidated balance sheet at fair value, with subsequent changes in their respective fair values recognized in earnings at each reporting date. The earnout liability was fair valued using a Monte Carlo open-ended model. The inputs used for the model were a dividend yield of 0%, volatility of 82%, and interest rate of 1.18%. At December 31, 2021 and December 31, 2020 the balance of the earnout liability was $127.8 million and $0.0 million, respectively. A gain of $75.5 million was recorded for the year ended December 31, 2021 Consolidated Statement of Operations and Comprehensive Income (Loss) for the change in the fair market value of the liability.

**14. Canadian Government Research and Development Program Liability**

In April 2019, the Company entered into a contribution agreement related to the research and development and construction associated with the operation of Origin 1 in which the Company will participate in a Canadian government research and development program (the “R&D Agreement”). Pursuant to the R&D Agreement, the Company will receive funding for eligible expenditures through March 31, 2023 up to the lesser of approximately 18.48% of eligible costs and $23.0 million (in Canadian dollars).

The funding will be repaid over 15 years after completion of Origin 1, commencing no sooner than the third fiscal year of consecutive revenues from a commercial plant, but no later than the fifth year following the earlier of (i) the year in which the Company completes construction of Origin 1 or (ii) March 2023. The maximum amount to be repaid by the Company under the R&D Agreement is 1.25 times the actual funding received, subject to the following repayment ceiling formula. Repayment of the funding will be reduced by 50% if the Company begins construction before December 31, 2024 of one or more commercial plants that operate in Canada, with costs exceeding $500 million (in Canadian dollars), and the plants being constructed and operational within 30 months of the final investment decision, as defined in the R&D Agreement. Once begun, repayments will be paid annually by April of each year through March 31, 2037. Payments will be determined by a formula of the funded amount based on the fiscal year gross business revenue, as defined in the R&D Agreement. At December 31, 2021 and December 31, 2020, the Company recorded a liability for the amount received of $6.8 million and $6.2 million, respectively.

**15. Assumed Common Stock Warrants**

As of December 31, 2021 there are 35,476,667 warrants outstanding.

As part of Artius's initial public offering, 24,150,000 Public Warrants were sold. The Public Warrants entitle the holder thereof to purchase one share of Common Stock at a price of $11.50 per share, subject to adjustments. The Public Warrants may be exercised only for a whole number of shares of Common Stock. No fractional shares will be issued upon exercise of the warrants. The Public Warrants will expire on June 25, 2026 at 5:00p.m., New York City time, or earlier upon redemption or liquidation. The Public Warrants are listed on the Nasdaq under the symbol "ORGNW".

The Company may redeem the Public Warrants when exercisable, in whole and not in part, at a price of $0.01 per warrant, so long as the Company provides not less than 30 days' prior written notice of redemption to each warrant holder, and if, and only if, the reported last sale price of the Common Stock equals or exceeds $18.00 per share for any 20 trading days within a 30-trading day period ending on the third trading day prior to the date the Company sends the notice of redemption to the warrant holders.

Simultaneously with Artius's initial public offering, Artius consummated a private placement of 11,326,667 Private Placement Warrants with the Sponsor. The Private Placement Warrant is exercisable for one share of Class A Common Stock at a price of $11.50 per share, subject to adjustment. The Private Placement Warrants are identical to the Public Warrants, except that: (1) the Private Placement Warrants and the shares of Class A Common Stock issuable upon exercise of the Private Placement Warrants are not transferable, assignable or salable until the earliest to occur of: (i) 365 days after the date of the Closing; (ii) the first day after the date on which the closing price of the Public Shares (or any successor securities thereto) equals or exceeds $12.00 per share (as adjusted for stock splits, stock dividends, reorganizations, recapitalizations and the like) for any 20 trading days within any 30-trading day period commencing at least 150 days after the date of the Closing; or (iii) the date on which Artius completes a liquidation, merger, capital stock exchange, reorganization or other similar transaction that results in all of Artius's Public Shareholders having the right to exchange their Public Shares (or any successor securities thereto) for cash, securities or other property, subject to certain limited exceptions, (2) the Private Placement Warrants will be exercisable on a cashless basis and be non-redeemable, except if the reference value equals or exceeds $10.00 and is less than $18.00 (as described above), so long as they are held by the initial purchasers or their permitted transferees, and (3) the Private Placement Warrants and the Class A ordinary shares issuable upon exercise of the Private Placement Warrants will be entitled to registration rights. If the Private Placement Warrants are held by someone other than the initial purchasers or their permitted transferees, the Private Placement Warrants will be redeemable under all redemption scenarios by the Company and exercisable by such holders on the same basis as the Public Warrants.

The Company concluded the Public Warrants and Private Placement Warrants, or Assumed Common Stock Warrants, meet the definition of a derivative under ASC 815 and are recorded as liabilities. Upon consummation of the Business Combination, the fair value of the Assumed Common Stock Warrants was recorded on the Consolidated Balance Sheet. The fair value of the Assumed Common Stock Warrants was remeasured on the December 31, 2021 Consolidated Balance Sheet at $52.9 million with a gain of $30.5 million recorded in the year ended December 31, 2021 Consolidated Statement of Operations and Comprehensive Income (Loss).

**16. Stockholders' Equity**

As of December 31, 2021, 1,010,000,000 shares, $0.0001 par value per share are authorized, of which, 1,000,000,000 shares are designated as Common Stock and 10,000,000 shares are designated as Preferred Stock.

***Common Stock***

Holders of the common stock are entitled to dividends when, as, and if, declared by the Board, subject to the rights of the holders of all classes of stock outstanding having priority rights to dividends. As of December 31, 2021, the Company had not declared any dividends. The holder of each share of Common Stock is entitled to one vote. There were 141,301,569 (including 4,500,000 Sponsor Vesting Shares not indexed to equity) and 62,545,275 shares of common stock outstanding as of December 31, 2021 and December 31, 2020, respectively.

***Employee Stock Purchase Plan***

The Company maintains an Employee Stock Purchase Plan (ESPP). Initially, the maximum number of shares of our Common Stock that may be issued under the ESPP will not exceed 1,846,710. Additionally, the number of shares of our Common Stock reserved for issuance under the ESPP will automatically increase on January 1st of each year, beginning on January 1, 2022 and continuing through and including January 1, 2031, by the lesser of (1) one percent (1%) of the fully-diluted shares of our Common Stock on December 31st of the preceding calendar year, (2) the number of shares of our Common Stock equal to two hundred percent (200%) of the ESPP’s initial share reserve, or (3) such lesser number of shares as determined by our board of directors. Shares subject to purchase rights granted under the ESPP that terminate without having been exercised in full will not reduce the number of shares available for issuance under the ESPP.

The ESPP permits participants to purchase shares of our Common Stock with the purchase price of the shares at 85% of the lower of the fair market value of our Common Stock on the first day of an offering or on the date of purchase.

To date no stock has been offered or issued to employee's under the ESPP.

***Equity Incentive Plans***

The Company maintains the following equity incentive plans: the 2010 Stock Incentive Plan, the 2020 Equity Incentive Plan and the 2021 Equity Incentive Plan, each as amended (together, the “Stock Plans”). Upon closing of the Business Combination, awards under the 2010 Stock Incentive Plan and 2020 Equity Incentive Plan were converted at the Exchange Ratio and the 2021 Equity Incentive Plan was adopted and approved. As of December 31, 2021, there were 18,467,109 shares of common stock reserved under the Stock Plans. Origin may grant a wide variety of equity securities under the Stock Plans, including incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock awards, RSU awards, performance stock awards, and other awards. At December 31, 2021, the Company has granted incentive stock options, RSU awards, and performance awards. Under the Stock Plans, options must be issued at prices no less than the estimated fair value of the stock on the date of grant and are exercisable for a period not exceeding 10 years from the date of grant. Options granted to employees under the Stock Plans generally vest 25% one year from the vesting commencement date and 1/36th per month thereafter, although certain arrangements call for vesting over other periods. Options granted to non-employees under the Stock Plan vest over periods determined by the Board (generally immediate to four years). RSU awards granted to employees under the Stock Plans require a service period of three years and generally vest 33.3% annually over the three-year service period. Under the Stock Plans, the fair value of RSU awards and performance awards are determined to be the grant date closing stock price. For awards with performance conditions, compensation is recorded once there is sufficient objective evidence the performance conditions are considered probable of being met. At December 31, 2021, the Company determined the performance conditions were not probable of being met, therefore no stock compensation was accrued.

The following tables summarize the activity under the Stock Plans:

| | Outstanding Options | | Weighted Average Exercise Price | Weighted Average Remaining Contractual Life (in years) |
|---|---|---|---|---|
| Balance at December 31, 2019 | 2,205,015 | $ | 0.36 | 3.89 |
| Granted | 6,296,302 | $ | 0.14 | |
| Exercised | (2,912) | $ | 0.37 | |
| Forfeited / canceled | (275,695) | $ | 0.43 | |
| Balance at December 31, 2020 | 8,222,710 | $ | 0.19 | 8.30 |
| Granted | — | | | |
| Exercised | (171,118) | | 0.42 | |
| Forfeited / canceled | (158,735) | | 0.14 | |
| Balance as of December 31, 2021 | 7,892,857 | $ | 0.19 | 7.31 |
| Vested and expected to vest at December 31, 2021 | 7,872,978 | | | |

During the year ended December 31, 2021, the Company did not grant any stock options.

As of December 31, 2021 and December 31, 2020, there were 7,667,247 and 10,244,399 awards, respectively, available for grant under the Stock Plans. As of December 31, 2021 and December 31, 2020 there were 4,130,184 and 2,150,941 exercisable options, respectively. The aggregate intrinsic value of options vested and expected to vest at December 31, 2021 is $49,260,254. As of December 31, 2021, the Company had stock-based compensation of $6.6 million related to unvested stock options not yet recognized that are expected to be recognized over an estimated weighted average period of 2.6 years.

The Company issued 2,920,732 of performance and market-based stock options during 2020. During the quarter ended March 31, 2021, the Company modified the vesting schedule of 529,119 of these performance and market based stock options such that vesting at 1/48th per month would commence upon signing of the Business Combination. The Company entered into the Merger Agreement on February 16, 2021 resulting in the commencement of expense recognition related to these 529,119 options during the quarter ended March 31, 2021. During the year ended December 31, 2021, stock compensation expense related to these performance and market based stock options was $2.9 million. For the remaining 2,391,613 performance and market-based stock options, expense commenced on the close date of the Merger, June 25, 2021, as that is the date when the performance condition was achieved.

RSU award and performance award activity for the year ended December 31, 2021 is as follows:

| | Restricted Stock Outstanding | |
|---|---|---|
| | Outstanding | Weighted-average grant date fair value |
| Balance at December 31, 2020 | — | |
| Granted - RSU awards | 769,505 | 7.34 |
| Granted - performance awards | 2,137,500 | 7.35 |
| Balance at December 31, 2021 | 2,907,005 | 7.35 |
| Expected to vest | 769,505 | |

The RSU awards, which upon vesting entitles the holder to be issued on a future date the number of shares of common stock that is equal to the number of restricted stock units subject to the RSU award. As of December 31, 2021, the performance conditions for the granted performance awards were not probable of being met, therefore no performance award stock compensation has been recorded. No RSU awards or performance awards vested during fiscal 2021 and 2020. As of December 31, 2021, the Company had unrecognized stock-based compensation of $5.4

million related to unvested RSU awards that are expected to be recognized over an estimated weighted average period of 2.9 years.

For the year ended December 31, 2021 and 2020, stock compensation expense of $5.8 million and $1.6 million, respectively, was recognized in general and administrative expenses on the Consolidated Statements of Operations and Comprehensive Income (Loss). During the year ended December 31, 2021 and 2020 stock compensation expense of $1.3 million and $0.1 million, respectively, was recognized in research and development expenses on the Consolidated Statements of Operations and Comprehensive Income (Loss). Total remaining compensation expense to be recognized under the Stock Plan is $7.3 million as of December 31, 2021 and will be amortized on a straight-line basis over the remaining vesting periods of approximately four years.

## 17. Income Taxes

Income (loss) before provision for income taxes consisted of the following:

| (in thousands) | December 31, 2021 | December 31, 2020 |
|---|---|---|
| United States | $ 43,645 | $ (29,162) |
| International | (1,554) | (1,141) |
| Income (loss) before provision for income taxes | $ 42,091 | $ (30,303) |

The federal and state income tax expense is summarized as follows:

| (in thousands) | December 31, 2021 | December 31, 2020 |
|---|---|---|
| Current | | |
| Federal | $ — | $ — |
| State | 3 | 2 |
| International | — | — |
| Total current tax expense | 3 | 2 |
| Deferred | | |
| Federal | — | — |
| State | — | — |
| International | — | — |
| Total deferred tax expense | — | — |
| | | |
| Total tax expense | $ 3 | $ 2 |

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, and operating losses and tax carryforwards.

The tax effects of significant items comprising the Company's deferred taxes are as follows:

| (in thousands) | December 31, 2021 | December 31, 2020 |
|---|---|---|
| Deferred tax assets | | |
| Net operating loss carryforwards | $ 24,899 | $ 18,400 |
| Available for Sale Securities | 390 | — |
| Lease liability | 341 | — |
| Other | 230 | 149 |
| Fixed assets and intangibles | 89 | 114 |
| Total deferred tax assets | 25,949 | 18,663 |
| | | |
| Deferred tax liabilities | | |
| ROU asset | (344) | — |
| Total deferred tax liabilities | (344) | — |
| | | |
| Valuation allowance | (25,605) | (18,663) |
| Net deferred taxes | $ — | $ — |

ASC 740 requires that the tax benefit of net operating losses, temporary differences and credit carryforwards be recorded as an asset to the extent that management assesses that realization is more likely than not. Realization of the future tax benefits is dependent on the Company's ability to generate sufficient taxable income within the carryforward period. Because of the Company's recent history of operating losses, management believes that recognition of the deferred tax assets arising from the above mentioned future tax benefits is currently not likely to be realized and, accordingly, has provided a valuation allowance.

The valuation allowance increased by $6.9 million and $1.9 million for the years ended December 31, 2021 and 2020, respectively.

At December 31, 2021, we had federal net operating loss carryforwards of approximately $97.8 million to offset future federal taxable income, with $44.9 million available through 2037 and $52.9 million available indefinitely. We also had state net operating loss carryforwards of approximately $36.8 million that may offset future state taxable income through 2041. We also had foreign net operating loss carryforwards of approximately $6.7 million that may offset future foreign taxable income through 2041.

At December 31, 2021, the Company has research and experimentation credit carryforwards of $— million for foreign tax purposes that expire after 2038.

The effective tax rate of the Company's provision (benefit) for income taxes differs from the federal statutory rate as follows:

| | December 31, 2021 | December 31, 2020 |
|---|---|---|
| Statutory rate | 21.0 % | 21.0 % |
| State tax | (1.3) | (0.1) |
| Warrants, BCF, and other equity items | (33.3) | (13.1) |
| Valuation allowance | 15.6 | (6.4) |
| Other | (0.2) | (0.1) |
| Foreign rate differential | (0.2) | 0.2 |
| Stock-based compensation | (1.6) | (1.5) |
| Total | — % | — % |

Under certain provisions of the Internal Revenue Code of 1986, as amended, a portion of the federal and state net operating loss carryforwards may be subject to an annual utilization limitation as a result of a change in ownership of the Company. Federal and California tax laws impose significant restrictions on the utilization of net operating loss carryforwards in the event of a change in ownership of the Company, as defined by Internal Revenue Code Section 382 ("Section 382"). The Company believes a change in ownership, as defined by Section 382, has occurred but a formal study has not been completed. In addition, in the future the Company may experience ownership changes, which may limit the utilization of net operating loss carryforwards or other tax attributes.

There were no unrecognized tax benefits in the years ended December 31, 2021 and 2020. The Company files income tax returns in the United States, various US states, and Canada. All tax years remain open in all jurisdictions. The Company is not currently under examination by income tax authorities in federal, state or other foreign jurisdictions. The Company does not anticipate any significant changes within 12 months of this reporting date of its uncertain tax positions.

## 18. Leases

The Company leases office space and research and development space in Sacramento, California and Sarnia, Ontario under noncancelable lease agreements and leases various office equipment, warehouse space, and temporary fencing. The operating leases have remaining lease terms of one to nine years. Certain operating leases contain options to extend the lease. The Company included the periods covered by these options as we are reasonably certain to exercise the options for all leases. For leases with the option to extend on a month-to-month basis after the defined extension periods, the Company is reasonably certain to extend for the same term as related leases. As such, lease terms for all leased assets located at the same locations have the same end dates. Rent deposits relating to leases are included within other long-term assets on the Consolidated Balance Sheets.

During 2021, the Company entered into a seven-year lease agreement for office space in Sacramento, California and recorded an operating lease ROU asset of approximately $0.9 million. Also in 2021, the Company entered into an 18-month lease agreement for office space in Sarnia, Ontario and recorded an operating lease right-of-use asset of approximately $0.1 million. The Company also entered into certain other operating leases during 2021 which were not individually or in aggregate material to the Company's consolidated financial statements. During 2021, the Company amended two of its existing office leases in Sacramento, California. The new agreement increased the lease payments and extended the lease agreement through October 2028.

The Company elected the accounting policy election to account for lease and nonlease components as a single lease component for all asset classes. Further, the Company elects to recognize lease payments on short-term leases in profit or loss on straight-line basis over the lease term for all asset classes, excluding such leases from recognition requirements under Topic 842.

The components of lease cost were as follows:

| (in thousands) | December 31, 2021 |
|---|---|
| Operating lease cost | $ 324 |
| Variable lease cost | 68 |
| Total lease cost | $ 392 |

Other information related to leases is as follows:

| (in thousands) | December 31, 2021 |
|---|---|
| Operating lease ROU asset (included within Lease right-of-use asset) | $ 1,782 |
| | |
| Weighted average remaining lease term (in years): | |
| Operating leases | 7.44 |
| Weighted average discount rate: | |
| Operating leases | 2.8 % |

| (in thousands) | December 31, 2021 |
|---|---|
| Cash paid for amounts included in the measurement of lease liabilities: | |
| Operating cash flows from operating leases | $ 271 |
| ROU assets obtained in exchange for operating lease liabilities | $ 2,062 |

To calculate the ROU assets and liabilities, the Company uses the discount rate implicit in lease agreements when available. When the implicit discount rates are not readily determinable, the Company uses the incremental borrowing rate, determined as of the date of adoption for Topic 842. This rate was determined for individual leases based on available information regarding jurisdiction, lease term, and asset class. Further, the interest environment was considered, including analysis of benchmark rates from promissory notes, credit curve yields for bonds, and synthetic curves based on discount margin spreads.

Maturities of lease liabilities as of December 31, 2021 were as follows:

| (in thousands) | December 31, 2021 |
|---|---|
| 2022 | $ 327 |
| 2023 | 300 |
| 2024 | 269 |
| 2025 | 257 |
| 2026 | 264 |
| Thereafter | 528 |
| Total lease payments | 1945 |
| Less: imputed interest | (179) |
| Less: lease liabilities, current | (280) |
| Lease liabilities, non-current | $ 1,486 |

## 19. Commitments and Contingencies

***Commitments***

In connection with the closing of the Business Combination, the Company entered into the Investor Rights Agreement on June 25, 2021 (the "Investor Rights Agreement"), pursuant to which the holders of Registrable Securities (as defined therein) became entitled to, among other things, customary registration rights, including demand, piggy-back and shelf registration rights. The Investor Rights Agreement also provides that the Company will pay certain expenses relating to such registrations and indemnify the registration rights holders against (or make contributions in respect of) certain liabilities which may arise under the Securities Act. On July 15, 2021, the Company registered the Registrable Securities for resale pursuant to a registration statement on Form S-1, as amended (File No. 333-257931) that became effective on July 30, 2021.

In May 2018, the Company executed operating and maintenance agreements for certain services, to facilitate the development and thus bring Origin 1 to the condition necessary for its intended use, commencing in different periods between July 2018 and September 2019, and all generally for five-year periods. The agreements are generally automatically extended for one-year periods thereafter. The agreements include annual fixed payments subject to escalation clauses at the beginning of each calendar year, as defined in the agreement. The minimum fixed payments are $0.4 million (in Canadian dollars) per year over the fixed term. Certain of the agreements include quantities that are based on volumes, as defined in the applicable agreements. The Company is also responsible for applicable taxes under these agreements. During the year ended December 31, 2021 and 2020, the total amount capitalized into Property, Plant and Equipment, Net under the agreement was $0.1 million.

In May 2019, the Company also concurrently executed a take-or-pay steam supply agreement commencing by October 1, 2019, through December 31, 2022, whereby the Company will receive up to 25% for the first year and 50% thereafter of the steam generated, up to 140,000 MMBTUs per year. The price paid for the steam is based on a fixed amount plus the supplier’s cost of natural gas, as defined in the agreement. During the year ended December 31, 2021 and 2020, the total amount capitalized into Property, Plant and Equipment, Net under the agreement was $0.1 million.

In May 2018, the Company entered into a joint development agreement (the “JDA”) with a legacy stockholder to evaluate alternative uses for one of the Company’s products. The term of the JDA is the later of (i) 3 years from the JDA effective date and (ii) the final expected development program completion date as specified in the JDA. There were no expenses under this agreement for the year ended December 31, 2021 or 2020.

***Patent licenses***

In July 2017, the Company entered into a patent license agreement for $0.1 million, which expires upon expiration of the last patent in December 2025. Under this agreement, the Company will pay minimum royalty payments of $5,000 per year and, if the Company develops and sells certain products based on the patent, up to a maximum of $25,000 per year. Certain products that Origin is currently developing and anticipates selling are expected to utilize these patents.

In December 2016, the Company entered into a patent license agreement for $0.5 million, which expires upon expiration of the patent. Under this agreement, if the Company develops and sells specific products based on the patent, the Company would pay a royalty up to a cumulative $0.5 million from Origin 1, whereby no further payments will be due for any production at Origin 1. If production of those products occurs at subsequent facilities, the Company will pay an upfront license fee royalty and a variable royalty based on production at that subsequent facility, capped at an aggregate $10 million per facility. Certain products that the Company is currently developing and anticipates selling are expected to utilize these patents. No payments were made during the year ended December 31, 2021 or 2020.

In November 2016, the Company entered into a patent license agreement for $35.0 thousand, which expires upon expiration of the patent. Under this agreement, if the Company produces products based on the patent, the Company will pay an annual royalty upon commencement of operations on Origin 1 of $25.0 thousand up to a cumulative $1.0 million. The pipeline of Company products and sales are not currently expected to be subject to this patent. No payments were made during the year ended December 31, 2021 or 2020.

In August 2015, the Company entered into a patent license agreement, which expires upon expiration of the patent. Under this agreement, if the Company develops and sells specific products based on the patent, the Company would pay a royalty up to $2.0 million per year and $10.0 million in the aggregate. Certain products that the Company is currently developing and anticipates selling are expected to utilize these patents. No payments were made during the year ended December 31, 2021 or 2020.

In June 2011, the Company entered into a nonexclusive patents license agreement, which expires upon expiration of the last patent to expire. Under this agreement, the Company pays a royalty of $5.0 thousand annually and if the Company develops and sells specific products based on the patent, 0.4% of net sales. The pipeline of Company products and sales are not currently expected to be subject to this patent.

### *Contingencies*

At times there may be claims and legal proceedings generally incidental to the normal course of business that are pending or threatened against the Company. Although the Company cannot predict the outcome of these matters when they arise, in the opinion of management, any liability arising from them will not have a material adverse effect on the consolidated financial position, results of operations, or liquidity of the Company. At December 31, 2021 and December 31, 2020, there were no claims or legal proceedings.

## 20. Basic and Diluted Net Income (Loss) Per Share

The following table sets forth the computation of basic and diluted net income (loss) per share attributable to common stockholders, which excludes Sponsor Vesting Shares which are legally outstanding, but subject to return to the Company. Basic net income (loss) per share is computed by dividing net income (loss) for the period by the weighted-average number of common shares outstanding during the period. Diluted net income (loss) per share is computed by dividing net income (loss) for the period by the weighted-average number of common shares outstanding during the period, plus the dilutive effect of the stock options, RSU awards and convertible preferred stock warrants, as applicable pursuant to the treasury stock method, and the convertible notes, as applicable pursuant to the if-converted method. The following table sets forth the computation of basic and diluted net income (loss) per share:

| *(In thousands, except for share and per share amounts)* | Year Ended December 31, 2021 | Year Ended December 31, 2020 |
|---|---|---|
| Numerator: | | |
| Net income (loss) attributable to common stockholders—Basic | $ 42,090 | $ (30,302) |
| | | |
| Net income (loss) attributable to common stockholders—Diluted | $ 42,090 | $ (30,302) |
| Denominator: | | |
| Weighted-average common shares outstanding—Basic (1) | 101,221,781 | 62,544,933 |
| Stock options | 4,954,919 | — |
| RSU awards | 61,054 | — |
| Weighted-average common shares outstanding—Diluted (1) | 106,237,754 | 62,544,933 |
| Net income (loss per share)—Basic | $ 0.42 | $ (0.48) |
| Net income (loss per share)—Diluted | $ 0.40 | $ (0.48) |

(1) Excludes weighted-average Sponsor Vesting Shares subject to return of 2,342,466 and — shares for the year ended December 31, 2021 and December 31, 2020, respectively.

Diluted earnings per share reflect the potential dilution of securities that could share in the earnings of an entity. As of December 31, 2021, options for 1,481,531 shares of common stock, performance awards for 2,137,500 shares of common stock, earnout shares for 25,000,000 shares of common stock, and Sponsor Vesting Shares for 4,500,000 shares of common stock were excluded from the table below because they are subject to market or performance conditions that were not achieved as of December 31, 2021.

The following outstanding shares of potentially dilutive securities were excluded from the computation of diluted net income (loss) per share attributable to common stockholders for the periods presented because including them would have been antidilutive:

| | Year Ended December 31, | |
|---|---|---|
| | 2021 | 2020 |
| Options to purchase common stock | — | 8,222,710 |
| Warrants to purchase common stock | 35,476,667 | — |
| Warrants to purchase redeemable convertible preferred stock, as-converted | 2,678,320 | 5,554,470 |