

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

FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

REDWIRE CORPORATION

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

88-1818410

(I.R.S. Employer Identification Number)

**8226 Philips Highway, Suite 101
Jacksonville, Florida 32256
(650) 701-7722**

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

**Peter Cannito
President, Chief Executive Officer and Chairman
8226 Philips Highway, Suite 101
Jacksonville, Florida 32256
(650) 701-7722**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies of all communications, including communications sent to agent for service, should be sent to:

**Alexander M. Schwartz
Sheppard, Mullin, Richter & Hampton LLP
321 North Clark Street, 32nd Floor
Chicago, Illinois 60654
(312) 499-6300**

Approximate date of commencement of proposed sale to the public: From time to time on or after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. ☐

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. ☒

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. ☒

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. ☐

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

Large accelerated filer

☐

Accelerated filer

☒

Non-accelerated filer

☐

Smaller reporting company

☒

Emerging growth company

☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☐



REDWIRE CORPORATION

**Common Stock
Preferred Stock
Warrants
Subscription Rights
Units**

We may offer and sell from time to time in one or more offerings any combination of our common stock, preferred stock, warrants, subscription rights or units described in this prospectus.

This prospectus provides you with a general description of these securities. Each time we offer and sell these securities, we will provide the specific terms of any such offering of these securities in a supplement to this prospectus. The applicable prospectus supplement will also describe the specific manner in which we will offer these securities and may also supplement, update or amend information contained in this prospectus. You should carefully read this prospectus and any applicable prospectus supplement, as well as the documents incorporated by reference herein or therein, before you make an investment decision. No securities may be sold without delivery of this prospectus and the applicable prospectus supplement describing the method and terms of the offering of such securities.

We may sell these securities on a continuous or delayed basis, directly, through agents, dealers or underwriters as designated from time to time, or through a combination of these methods. If any agents, dealers or underwriters are involved in the sale of any securities, the applicable prospectus supplement will set forth their names and any applicable commissions or discounts.

Our common stock is listed on the New York Stock Exchange (“NYSE”) under the symbol “RDW”. On August 6, 2025, the closing sale price of our common stock was \$13.70.

See the section entitled “[*Risk Factors*](#)” beginning on page [5](#) of this prospectus and in the documents incorporated by reference herein to read about factors you should consider before investing in our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is August 7, 2025.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission (the “SEC”) using the “shelf” registration process as a “well-known seasoned issuer” as defined in Rule 405 under the Securities Act of 1933, as amended (the “Securities Act”). Under this shelf process, we may, from time to time, offer and sell the securities described in this prospectus in one or more offerings.

This prospectus provides you with a general description of the securities that we may offer. Each time we use this prospectus to offer securities, we will, to the extent required by law, provide you with a prospectus supplement that contains specific information about the terms of that offering, including the specific amounts, prices and terms of the securities offered or sold. The prospectus supplement may also supplement, update or change information contained in this prospectus. Therefore, if there is any inconsistency between the information in this prospectus and the prospectus supplement, you should rely on the information in the prospectus supplement.

Because we are a well-known seasoned issuer, as defined in Rule 405 under the Securities Act, we may add to and offer additional securities including secondary securities, by filing a prospectus supplement or term sheet with the SEC at the time of the offer.

We have not authorized anyone to provide you with any information other than that contained or incorporated by reference in this prospectus, any related prospectus supplement or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are not making an offer of these securities in any jurisdiction where the offer is not permitted. You should assume that the information appearing in this prospectus and any related prospectus supplement to this prospectus is accurate as of the date on their respective covers, and that any information incorporated by reference herein or therein is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise.

To understand the terms of the securities described in this prospectus, you should carefully read any applicable prospectus supplement. You should also read the documents we have referred you to under “Where You Can Find More Information” and “Information Incorporated By Reference” below for information about us. The shelf registration statement, including the exhibits thereto, can be read at the SEC’s website as described under “Where You Can Find More Information.”

Unless the context indicates otherwise, references in this prospectus to the “Company,” “Redwire,” “we,” “us,” “our” and similar terms refer to Redwire Corporation and its consolidated subsidiaries. The phrase “this prospectus” refers to this prospectus and any applicable prospectus supplement unless the context otherwise requires.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements in or incorporated by reference in this prospectus or any prospectus supplement regarding expectations of our performance or other matters that may affect our business, results of operations, or financial condition are “forward-looking statements” as defined by the “safe harbor” provisions in the Private Securities Litigation Reform Act of 1995. Such statements are made in reliance on the safe harbor provisions of Section 27A of the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). All statements, other than statements of historical fact, included or incorporated in this prospectus or any prospectus supplement are forward-looking statements. Words such as “expect,” “anticipate,” “should,” “believe,” “target,” “continued,” “project,” “plan,” “opportunity,” “estimate,” “potential,” “predict,” “demonstrates,” “may,” “will,” “could,” “intend,” “shall,” “possible,” “forecast,” “trends,” “contemplate,” “would,” “approximately,” “likely,” “outlook,” “schedule,” “pipeline,” and variations of these terms or the negative of these terms and similar expressions are intended to identify these forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking. These forward-looking statements are not guarantees of future performance, conditions or results. Forward-looking statements are subject to a number of risks and uncertainties, many of which involve factors or circumstances that are beyond our control, including but not limited to those described from time to time in our reports filed or furnished with the SEC, and in particular those factors set forth in the section entitled “Risk Factors” in our annual, quarterly and current reports filed with the SEC.

While we believe that our assumptions are reasonable, we caution that it is very difficult to predict the impact of known factors, and it is impossible for us to anticipate all factors that could affect our actual results. All forward-looking statements are expressly qualified in their entirety by these cautionary statements as well as other cautionary statements that are made from time to time in our other SEC filings and public communications.

All forward-looking statements speak only as of the date on which they are made. Accordingly, forward-looking statements should not be relied upon as representing our views as of any subsequent date. Factors or events that could cause our actual results to differ may emerge from time to time, and it is not possible for us to predict all of them. We undertake no obligation to update any forward-looking statement, whether as a result of new information, future developments or otherwise. If we do update one or more forward-looking statements, there should be no inference that we will make additional updates with respect to those or other forward-looking statements.

THE COMPANY

Redwire Corporation is a global leader in aerospace and defense technology solutions specializing in space infrastructure, autonomous aerial systems, multi-domain operations, and digital engineering and artificial intelligence (“AI”) automation. Our “Heritage plus Innovation” strategy enables us to combine decades of flight heritage with an agile and innovative culture creating new, innovative technologies that are the building blocks of airborne and space infrastructure for government and commercial customers.

Redwire’s capabilities are critical to global national security, civil and commercial customers. These core capabilities include multi-orbit space vehicles; AI-enabled autonomous uncrewed systems (“UAS”); critical subsystems and components, and commercial microgravity development and infrastructure. Many of our projects result in funded technology development and as a result, we benefit from continuous innovation aligned to our four primary focus areas as described below.

Redwire is a purpose-built space and defense technology company that is uniquely positioned to assist our customers in solving their most complex challenges and missions. Redwire has several areas of focus that shape our business: (1) providing critical subsystems to the most critical national security, civil, and commercial missions; (2) providing multi-domain platforms for remote sensing space situational awareness, global reconnaissance and space logistics; (3) providing critical infrastructure for cislunar and deep space exploration; and (4) pursuing breakthrough technologies in the realm of air and space.

With our core space-based infrastructure offerings, Redwire is a leading innovator in space infrastructure, enabling space mission providers with the foundational building blocks and integrated solutions needed for complex space missions. Redwire is developing critical space infrastructure that is impacting our terrestrial economy in areas such as national security, global defense, telecommunications, navigation and timing, and Earth observation. Our core space-based infrastructure offerings include a broad array of modern products and services, which have been enabling space missions since the 1960s and have been flight-proven on over 200 spaceflight missions, including missions such as the National Aeronautics and Space Administration’s Artemis program, New Horizons and Perseverance programs, the Space Force’s Global Positioning System, and the European Space Agency’s Project for On-Board Autonomy programs. We are also a provider of innovative technologies with the potential to help transform the economics of space and create new markets for its exploration and commercialization.

Our field-proven core airborne offerings have decades of innovation and more than 170 thousand flight hours. Key operations include developing and manufacturing UAS for commercial, government, and military applications in areas such as surveillance, logistics, reconnaissance, border security, and emergency response. We design and deploy UAS technology through solutions including autonomous flight systems, AI-powered data processing, and specialized sensors. Redwire is committed to delivering innovative space and airborne platforms to help transform the future of multi-domain operations.

Redwire’s broad portfolio of core airborne and space offerings, plus our domestic and international reach, allows us to participate in national security, civil, and commercial space markets globally. With the increasing importance of space for national security and economic development, international spacefaring allies’ demand for the space-based products and services of a provider like Redwire may increase as they seek to develop their organic space capabilities. Additionally, Redwire’s intelligence, surveillance, and reconnaissance gimbal technology provide stabilization and targeting capabilities, while its fuel cell, power solutions, and remote backup power systems support flight operations and mission-critical operations in diverse environments. Redwire aims to help customers streamline operations, enhance security, and address complex challenges related to aerial surveillance and data collection. We have a unique portfolio of highly synergistic and complementary core airborne and space infrastructure offerings that significantly enhance our access to addressable markets in Europe and the rest of the world.

The Company, in its current form, was founded in 2020 by private equity firm AE Industrial Partners, but the heritage of the various businesses that were brought together to form Redwire stretches back decades.

We have grown organically while also continuing to integrate several acquisitions from a fragmented landscape of airborne- and space-focused technology companies with innovative capabilities and deep flight heritage. Strategic

acquisitions that augment our core airborne and space infrastructure offerings are a key part of our growth strategy. We have completed eleven acquisitions since March 2020, which collectively have provided us with a broad portfolio of complementary technologies and solutions to serve our target markets and customers.

We are headquartered in Jacksonville, Florida. Our principal executive offices are located at 8226 Philips Highway, Suite 101, Jacksonville, Florida 32256, and our telephone number is (650) 701-7722. We maintain a website at <https://rdw.com/> where general information about us is available. The information contained in, or that may be accessed through, our website is not part of, and is not incorporated into, this prospectus or the registration statement of which it forms a part. Our common stock trades on the New York Stock Exchange under the symbol “RDW”.

RISK FACTORS

Investing in our securities involves risks. Before you make a decision to buy our securities, in addition to the risks and uncertainties discussed above under “Cautionary Note Regarding Forward-Looking Statements,” you should carefully consider the specific risks incorporated by reference in this prospectus to our most recent Annual Report on Form 10-K and any subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K, including the Current Report on Form 8-K filed with the SEC on June 18, 2025, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Exchange Act and the risk factors and other information contained in any applicable prospectus supplement. If any of these risks actually occur, it may materially harm our business, financial condition, liquidity and results of operations. As a result, the market price of our securities could decline, and you could lose all or part of your investment. Additionally, the risks and uncertainties incorporated by reference in this prospectus or any prospectus supplement are not the only risks and uncertainties that we face. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may become material and adversely affect our business.

USE OF PROCEEDS

Unless otherwise specified in a prospectus supplement, we intend to use the net proceeds from the sale of our securities offered by us under this prospectus for general corporate purposes, which may include, among other things, the repayment of debt, working capital, capital expenditures and acquisitions. We retain broad discretion over the use of the net proceeds from the sale of the securities offered hereby. Additional information on the use of net proceeds from the sale of the securities that we may offer from time to time by this prospectus may be set forth in the applicable prospectus supplement relating to a particular offering.

DESCRIPTION OF CAPITAL STOCK

The description of our capital stock is incorporated by reference to Exhibit 4.1 to our Annual Report on Form 10-K for the fiscal year ended December 31, 2024, filed with the SEC on March 11, 2025.

DESCRIPTION OF WARRANTS

We may issue additional warrants to purchase any combination of our common stock, par value \$0.0001 per share (the “Common Stock”), our preferred stock, par value \$0.0001 per share (the “Preferred Stock”), or other securities. We may issue additional warrants independently or together with other securities. Additional warrants sold with other securities may be attached to or separate from the other securities. We will issue additional warrants under one or more new warrant agreements between us and a warrant agent that we will name in the applicable prospectus supplement.

The applicable prospectus supplement will include specific terms relating to the offering. We will file the form of any new warrant agreement with the SEC, and you should read the warrant agreement for provisions that may be important to you. The applicable prospectus supplement will include some or all of the following terms:

- the title of the warrants;
- the aggregate number of warrants offered;
- the designation, number and terms of the Common Stock, Preferred Stock or other securities purchasable upon exercise of the warrants, and procedures by which the number of securities purchasable may be adjusted, if any;
- the exercise price of the warrants;
- the dates or periods during which the warrants are exercisable;
- the designation and terms of any securities with which the warrants are issued;
- if the warrants are issued as a unit with another security, the date on and after which the warrants and the other security will be separately transferable, if ever;
- any minimum or maximum amount of warrants that may be exercised at any one time; and
- any terms, procedures and limitations relating to the transferability, exchange or exercise of the warrants.

DESCRIPTION OF SUBSCRIPTION RIGHTS

We may, at our option, issue subscription rights independently or together with any other security, which may or may not be transferable. As part of any rights offering, we may enter into a standby underwriting or other arrangement under which the underwriters or any other person would purchase any securities that are not purchased in such rights offering. If we issue subscription rights, they may be governed by a separate subscription agent agreement that we will sign with a bank or trust company, as rights agent, that will be named in the applicable prospectus supplement. The rights agent will act solely as our agent and will not assume any obligation to any holders of rights certificates or beneficial owners of rights.

In general, a right entitles the holder to purchase for cash a specific number of shares of common stock or other securities at a specified exercise price. The rights are normally issued to stockholders as of a specific record date, may be exercised only for a limited period of time and become void following the expiration of such period. If we determine to issue subscription rights, we will accompany this prospectus with a prospectus supplement that will describe, among other things:

- the record date for stockholders entitled to receive the rights;
- the number of shares of Common Stock or other securities that may be purchased upon exercise of each right;
- the exercise price of the rights;
- whether the rights are transferable;
- the period during which the rights may be exercised and when they will expire;
- the steps required to exercise the rights;
- the price, if any, for the subscription rights;
- the number of subscription rights issued;
- the terms of the shares of Common Stock or shares of Preferred Stock;
- if applicable, the material terms of any standby underwriting or other arrangement entered into by us in connection with the offering of subscription rights;
- the other terms of the subscription rights, including the terms, procedures and limitations relating to the exercise of the subscription rights;
- whether the rights include “oversubscription rights” so that the holder may purchase more securities if other holders do not purchase their full allotments;
- whether we intend to sell the shares of Common Stock or other securities that are not purchased in the rights offering to an underwriter or other purchaser under a contractual “standby” commitment or other arrangement; and
- any applicable United States federal income tax considerations.

If fewer than all of the rights issued in any rights offering are exercised, we may offer any unsubscribed securities directly to persons other than stockholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby arrangements, as described in the applicable prospectus supplement.

DESCRIPTION OF UNITS

As specified in the applicable prospectus supplement, we may issue units comprised of two or more of the other securities described in this prospectus in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The applicable prospectus supplement will describe:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances the securities comprising the units may be held or transferred separately;
- a description of the terms of any unit agreement governing the units;
- a description of the provisions for the payment, settlement, transfer or exchange of the units; and
- whether the units will be issued in fully registered or global form.

The unit agreement, together with the terms of the underlying securities, will be filed with the SEC in connection with the offering of the specific units. You should read such filings for provisions that may be important to you.

PLAN OF DISTRIBUTION

We may sell securities offered by this prospectus from time to time in one or more transactions, including without limitation:

- directly to one or more purchasers;
- through agents;
- in “at the market offerings” as defined in Rule 415(a)(4) under the Securities Act, into an existing trading market, or a securities exchange or otherwise;
- to or through underwriters, brokers or dealers;
- through a combination of any of these methods; or
- any other method permitted pursuant to applicable law.

A distribution of shares of our securities offered by this prospectus may also be effected through the issuance of derivative securities, including without limitation, warrants, subscriptions, exchangeable securities, forward delivery contracts and the writing of options. In addition, the manner in which we may sell some or all of the shares of our securities covered by this prospectus includes, without limitation, through:

- a block trade in which a broker-dealer will attempt to sell as agent, but may position or resell a portion of the block, as principal, in order to facilitate the transaction;
- purchases by a broker-dealer, as principal, and resale by the broker-dealer for its account;
- ordinary brokerage transactions and transactions in which a broker solicits purchasers; or
- privately negotiated transactions.

We may also enter into hedging transactions. For example, we may:

- enter into transactions with a broker-dealer or affiliate thereof in connection with which such broker-dealer or affiliate will engage in short sales of shares of our Common Stock pursuant to this prospectus, in which case such broker-dealer or affiliate may use shares of our Common Stock received from us to close out its short positions;
- sell securities short and redeliver such shares to close out our short positions;
- enter into option or other types of transactions that require us to deliver to a broker-dealer or an affiliate thereof, who will then resell or transfer shares of our Common Stock under this prospectus; or
- loan or pledge shares of our Common Stock to a broker-dealer or an affiliate thereof, who may sell the loaned shares or, in an event of default in the case of a pledge, sell the pledged shares pursuant to this prospectus.

In addition, we may enter into derivative or hedging transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. In connection with such a transaction, the third parties may sell shares of our securities covered by and pursuant to this prospectus and an applicable prospectus supplement or other offering materials, as the case may be. If so, the third party may use securities borrowed from us or others to settle such sales and may use securities received from us to close out any related short positions. We may also loan or pledge securities covered by this prospectus and an applicable prospectus supplement to third parties, who may sell the loaned securities or, in an event of default in the case of a pledge, sell the pledged securities pursuant to this prospectus and the applicable prospectus supplement or other offering materials, as the case may be.

We may sell securities in and outside the United States through underwriters or dealers, directly to purchasers, including our affiliates, through agents, or through a combination of any of these methods.

The prospectus supplement will include the specific plan of distribution, which will include the following information:

- terms of the offering;
- the names of any underwriters, dealers or agents;
- the name or names of any managing underwriter or underwriters;
- the purchase price of the securities;
- the net proceeds from the sale of the securities;
- any delayed delivery arrangements;
- any underwriting discounts, commissions and other items constituting underwriters' compensation;
- any public offering price;
- any discounts or concessions allowed or reallocated or paid to dealers;
- any commissions paid to agents; and
- the terms of any arrangement entered into with any dealer or agent.

Sale Through Underwriters or Dealers

If underwriters are used in the sale of shares of our securities, the underwriters will acquire the securities for their own account. The underwriters may resell the securities from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. Underwriters may offer our securities to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. Unless we inform you otherwise in any prospectus supplement, the obligations of the underwriters to purchase the securities will be subject to certain conditions, and the underwriters will be obligated to purchase all the offered securities if they purchase any of them. The underwriters may change from time to time any public offering price and any discounts or concessions allowed or reallocated or paid to dealers.

During and after an offering through underwriters, the underwriters may purchase and sell our securities in the open market. These transactions may include over-allotment and stabilizing transactions and purchases to cover syndicate short positions created in connection with the offering. The underwriters may also impose a penalty bid, which means that selling concessions allowed to syndicate members or other broker-dealers for the offered securities sold for their account may be reclaimed by the syndicate if the offered securities are repurchased by the syndicate in stabilizing or covering transactions. These activities may stabilize, maintain or otherwise affect the market price of the offered securities, which may be higher than the price that might otherwise prevail in the open market. If commenced, the underwriters may discontinue these activities at any time.

If dealers are used in the sale of shares of our securities, we will sell the securities to them as principals. They may then resell those securities to the public at varying prices determined by the dealers at the time of resale. We will include in the prospectus supplement the names of the dealers and the terms of the transaction.

We are subject to the applicable provisions of the Exchange Act and the rules and regulations under the Exchange Act, including Regulation M. Regulation M may limit the timing of purchases and sales of any of the securities offered in this prospectus. The anti-manipulation rules under the Exchange Act may apply to sales of shares in the market. Furthermore, Regulation M may restrict the ability of any person engaged in the distribution of our securities to engage in market-making activities for the particular securities being distributed for a period of up

to two business days before the distribution. The restrictions may affect the marketability of the securities and the ability of any person or entity to engage in market-making activities for the securities.

Direct Sales and Sales Through Agents

We may sell our securities directly, and not through underwriters or agents. Our securities may also be sold through agents designated from time to time. In the prospectus supplement, we will name any agent involved in the offer or sale of the offered securities, and we will describe any commissions payable to the agent. Unless we inform you otherwise in the prospectus supplement, any agent will agree to use its reasonable best efforts to solicit purchases for the period of its appointment.

We may sell our securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act, with respect to any sale of those securities. We will describe the terms of any such sales in the prospectus supplement.

Delayed Delivery Contracts

If we so indicate in the prospectus supplement, we may authorize agents, underwriters or dealers to solicit offers from certain types of institutions to purchase our securities from us at the public offering price under delayed delivery contracts. These contracts would provide for payment and delivery on a specified date in the future. The contracts would be subject only to those conditions described in the prospectus supplement. The prospectus supplement will describe the commission payable for solicitation of those contracts.

Institutional Purchasers

We may authorize agents, dealers or underwriters to solicit certain institutional investors to purchase offered securities on a delayed delivery basis pursuant to delayed delivery contracts providing for payment and delivery on a specified future date. The applicable prospectus supplement or other offering materials, as the case may be, will provide the details of any such arrangement, including the offering price and commissions payable on the solicitations.

We will enter into such delayed contracts only with institutional purchasers that we approve. These institutions may include commercial and savings banks, insurance companies, pension funds, investment companies and educational and charitable institutions.

Market-Making, Stabilization and Other Transactions

There is currently no market for any of the offered securities, other than our Common Stock that is listed on the NYSE. If the offered securities are traded after their initial issuance, they may trade at a discount from their initial offering price, depending upon prevailing interest rates, the market for similar securities and other factors. While it is possible that an underwriter could inform us that it intends to make a market in the offered securities, such underwriter would not be obligated to do so, and any such market-making could be discontinued at any time without notice. Therefore, no assurance can be given as to whether an active trading market will develop for the offered securities.

In connection with any offering of our securities, the underwriters may purchase and sell our securities in the open market. These transactions may include short sales, syndicate covering transactions and stabilizing transactions. Short sales involve syndicate sales of shares of our Common Stock in excess of the number of shares to be purchased by the underwriters in the offering, which creates a syndicate short position. "Covered" short sales are sales of shares made in an amount up to the number of shares represented by the underwriters' over-allotment option. In determining the source of shares to close out the covered syndicate short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the over-allotment option. Transactions to close out the covered syndicate short involve either purchases of shares of our Common Stock in the open market after the distribution has been completed or the exercise of the over-allotment option. The underwriters may also make "naked" short sales of shares in excess of the over-allotment option. The underwriters must close out any naked short position by

purchasing shares of Common Stock in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of bids for or purchases of shares in the open market while the offering is in progress for the purpose of pegging, fixing or maintaining the price of the securities.

In connection with any offering, the underwriters may also engage in penalty bids. Penalty bids permit the underwriters to reclaim a selling concession from a syndicate member when the securities originally sold by the syndicate member are purchased in a syndicate covering transaction to cover syndicate short positions. Stabilizing transactions, syndicate covering transactions and penalty bids may cause the price of the securities to be higher than it would be in the absence of these transactions. The underwriters may, if they commence these transactions, discontinue them at any time.

General Information

We may have agreements with the agents, dealers and underwriters to indemnify them against certain civil liabilities, including liabilities under the Securities Act, or to contribute with respect to payments that the agents, dealers or underwriters may be required to make. Agents, dealers and underwriters may be customers of, engage in transactions with or perform services for, us in the ordinary course of their businesses.

LEGAL MATTERS

Certain legal matters with regard to the validity of the securities offered pursuant to this prospectus and any prospectus supplement will be passed upon for us by Sheppard, Mullin, Richter & Hampton LLP, Chicago, Illinois, and for any underwriters or agents by counsel named in the applicable prospectus supplement.

EXPERTS

The consolidated financial statements of Redwire Corporation as of December 31, 2024 and 2023, and for each of the years in the two-year period ended December 31, 2024, have been incorporated by reference in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

The audited historical financial statements of Edge Autonomy Intermediate Holdings, LLC included in Redwire Corporation's Current Report on Form 8-K dated April 3, 2025 incorporated by reference in this prospectus have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, independent auditors, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement on Form S-3 we filed with the SEC under the Securities Act and does not contain all the information set forth or incorporated by reference in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference into this prospectus for a copy of such contract, agreement or other document. You may obtain copies of the registration statement and its exhibits via the SEC's EDGAR database.

We file annual, quarterly and current reports, proxy statements and other information with the SEC under the Exchange Act. The SEC maintains a website that contains reports, proxy and information statements and other information regarding issuers, including us, that file electronically with the SEC. You may obtain documents that we file with the SEC at www.sec.gov.

Our website address is <https://rdw.com/>. We do not incorporate the information on or accessible through our website into this prospectus or any prospectus supplement, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus or any prospectus supplement. Our website address is included in this prospectus as an inactive textual reference only.

INFORMATION INCORPORATED BY REFERENCE

The registration statement of which this prospectus is a part incorporates by reference important business and financial information about our Company that is not included in or delivered with this document. The information incorporated by reference is considered to be part of this prospectus, and the SEC allows us to “incorporate by reference” the information we file with it, which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus. Any statement contained in any document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in or omitted from this prospectus or any accompanying prospectus supplement, or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein, modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus. We incorporate by reference:

- Our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2024, filed on March 11, 2025 (our “Annual Report”) (including the portions of our definitive proxy statement on Schedule 14A filed with the SEC on April 21, 2025 incorporated by reference therein);
- Our Quarterly Reports on Form 10-Q for the quarter ended [March 31, 2025](#), filed on May 12, 2025 and for the quarter ended [June 30, 2025](#), filed on August 7, 2025;
- Our Current Reports on Form 8-K, filed on [January 21, 2025](#), [February 20, 2025](#), [March 26, 2025](#), [April 3, 2025](#), [May 21, 2025](#), [June 9, 2025](#), [June 13, 2025](#), [June 18, 2025](#), [July 2, 2025](#) and [July 15, 2025](#) (excluding any portions of such reports that were “furnished” rather than “filed”); and
- The description of our securities filed as an [Exhibit 4.1](#) to our Annual Report, as amended by any subsequent amendment or any report filed for the purpose of updating such description.

We also incorporate by reference into this prospectus any further filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (other than portions of those made pursuant to Item 2.02 or Item 7.01 of Form 8-K or other information “furnished” and not filed with the SEC), including all applicable filings filed after the date of the initial registration statement (of which this prospectus forms a part) and prior to its effectiveness and all applicable filings filed after the date of this prospectus and prior to the completion of an offering of securities under this prospectus.

Copies of all documents incorporated by reference in this prospectus, other than exhibits to those documents unless such exhibits are specifically incorporated by reference in this prospectus, will be provided at no cost to each person, including any beneficial owner, who receives a copy of this prospectus on the written or oral request of that person made to:

Redwire Corporation
8226 Philips Highway, Suite 101
Jacksonville, Florida 32256
Attention: Investor Relations
Telephone: (650) 701-7722

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following table sets forth the various expenses expected to be incurred by the Company in connection with the sale and distribution of the securities being registered hereby, other than underwriting discounts and commissions. All amounts are estimated except the SEC registration fee.

SEC registration fee	\$	(1)
Accounting fees and expenses		(2)
Legal fees and expenses		(2)
Printing expenses		(2)
Registrar and Transfer Agent's fees		(2)
Miscellaneous fees and expenses		(2)
Total	\$	(2)

(1) In accordance with Rules 456(b) and 457(r), we are deferring payment of all of the registration fee.

(2) These fees are calculated based on the number of issuances and amount of securities offered and accordingly cannot be estimated at this time.

Item 15. Indemnification of Directors and Officers

Section 145(a) of the DGCL provides, in general, that a corporation may indemnify any person who was or is a party to or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation), because he or she is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding, if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful.

Section 145(b) of the DGCL provides, in general, that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor because the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification shall be made with respect to any claim, issue or matter as to which he or she shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, he or she is fairly and reasonably entitled to indemnity for such expenses that the Court of Chancery or other adjudicating court shall deem proper.

Section 145(g) of the DGCL provides, in general, that a corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of his or her status as such, whether or not the corporation would have the power to indemnify the person against such liability under Section 145 of the DGCL.

We have entered into indemnification agreements with each of our directors and executive officers. These agreements provide that we will indemnify each of our directors and such officers to the fullest extent permitted by law and our Certificate of Incorporation and our Bylaws.

We also maintain a general liability insurance policy, which will cover certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

Item 16. Exhibits

Exhibit No.	Description
1.1+	Form of Underwriting Agreement.
4.1	Certificate of Incorporation of Redwire Corporation, filed with the Secretary of State of the State of Delaware on September 2, 2021 (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on September 10, 2021).
4.2	Bylaws of Redwire Corporation (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed on September 10, 2021).
4.3	Certificate of Designation of Series A Convertible Preferred Stock of Redwire Corporation (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on November 2, 2022).
4.4	Certificate of Amendment of Certificate of Designation of the Company Series A Convertible Preferred Stock of Redwire Corporation (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on January 9, 2023).
4.5	Certificate of Amendment of Certificate of Designation of Series A Convertible Preferred Stock of Redwire Corporation (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on November 1, 2023).
4.6	Specimen Warrant Certificate (incorporated by reference to Exhibit 4.3 to the Registration Statement on Form S-1 filed by Genesis Park Acquisition Corp. on September 25, 2020).
4.7	Warrant Agreement, dated as of November 23, 2020, between Continental Stock Transfer & Trust Company and Genesis Park Acquisition Corp. (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K filed by Genesis Park Acquisition Corp. on November 27, 2020).
4.8+	Form of Certificate of Designations of Preferred Stock.
4.9+	Form of Warrant Agreement.
4.10+	Form of Subscription Rights Agreement.
4.11+	Form of Unit Agreement.
5.1*	Opinion of Sheppard, Mullin, Richter & Hampton LLP.
23.1*	Consent of KPMG LLP.
23.2*	Consent of PricewaterhouseCoopers LLP.
23.3*	Consent of Sheppard, Mullin, Richter & Hampton LLP (included in Exhibit 5.1).
24.1*	Power of attorney (included on signature page hereto).
107*	Filing Fee Table.

+ To be filed, if necessary, subsequent to the effectiveness of this registration by an amendment to this registration statement or as an exhibit to a report filed under the Exchange Act and incorporated by reference herein.

* Filed herewith.

Item 17. Undertakings

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

- (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement; provided, however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the Company pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.
- (2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
 - (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
 - (4) That, for the purpose of determining liability under the Securities Act to any purchaser:
 - (i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
 - (ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5) or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which the prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date; and
 - (5) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold

to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
 - (ii) any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned Company;
 - (iii) the portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
 - (iv) any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.
- (6) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (7) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers, and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer, or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Jacksonville, State of Florida, on August 7, 2025.

REDWIRE CORPORATION
By: /s/ Peter Cannito
Peter Cannito
President, Chief Executive Officer and Chairman

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears immediately below constitutes and appoints Peter Cannito and Aaron Futch, his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to file the same with all exhibits thereto and other documents in connection therewith with the SEC, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or their or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Peter Cannito</u> Peter Cannito	President, Chief Executive Officer and Chairman (Principal Executive Officer)	August 7, 2025
<u>/s/ Jonathan S. Baliff</u> Jonathan S. Baliff	Chief Financial Officer and Director (Principal Financial Officer)	August 7, 2025
<u>/s/ Chris Edmunds</u> Chris Edmunds	Chief Accounting Officer (Principal Accounting Officer)	August 7, 2025
<u>/s/ John S. Bolton</u> John S. Bolton	Director	August 7, 2025
<u>/s/ Louis R. Brothers</u> Louis R. Brothers	Director	August 7, 2025
<u>/s/ Michael Greene</u> Michael Greene	Director	August 7, 2025
<u>/s/ Joanne O. Isham</u> Joanne O. Isham	Director	August 7, 2025
<u>/s/ Kirk Konert</u> Kirk Konert	Director	August 7, 2025
<u>/s/ David Kornblatt</u> David Kornblatt	Director	August 7, 2025
<u>/s/ Raphael Thomas Wallander</u> Raphael Thomas Wallander	Director	August 7, 2025

Calculation of Filing Fee Tables

S-3

Redwire Corp

Table 1: Newly Registered and Carry Forward Securities

☐ Not Applicable

	Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee	Carry Forward Form Type	Carry Forward File Number	Carry Forward Initial Effective Date	Filing Fee Previously Paid in Connection with Unsold Securities to be Carried Forward
Newly Registered Securities												
Fees to be Paid	1 Equity	Common Stock, \$0.0001 par value per share	457(r)				0.0001531					
Fees to be Paid	2 Equity	Preferred Stock, \$0.0001 par value per share	457(r)				0.0001531					
Fees to be Paid	3 Equity	Warrants	457(r)				0.0001531					
Fees to be Paid	4 Other	Subscription Rights	457(r)				0.0001531					
Fees to be Paid	5 Other	Units	457(r)				0.0001531					
Fees Previously Paid												
Carry Forward Securities												
Carry Forward Securities												
Total Offering Amounts:						\$ 0.00	\$ 0.00					
Total Fees Previously Paid:							\$ 0.00					
Total Fee Offsets:							\$ 14,315.00					
Net Fee Due:							\$ 0.00					

Offering Note

1

- a. An indeterminate number of the securities of each identified class is being registered as may from time to time be offered at indeterminate prices, along with an indeterminate number of securities that may be issued upon exercise, settlement, exchange or conversion of securities offered hereunder.
- b. The registrant is relying on Rule 456(b) and Rule 457(r) under the Securities Act of 1933, as amended (the "Securities Act"), to defer payment of all of the registration fee.

2

See note 1a. and 1b.

3

See note 1a. and 1b.

4

See note 1a. and 1b.

5

See note 1a. and 1b.

Table 2: Fee Offset Claims and Sources

☐ Not Applicable

	Registrant or Filer Name	Form or	File Number	Initial Filing	Filing Date	Fee Offset	Security Type	Security Title	Unsold Securities	Unsold Aggregate	Fee Paid with Fee
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			Filing Type		Date		Claimed	Associated with Fee Offset Claimed	Associated with Fee Offset Claimed	Associated with Fee Offset Claimed	Offering Amount Associated with Fee Offset Claimed	Offset Source
Rules 457(b) and 0-11(a)(2)												
Fee Offset Claims												
Fee Offset Sources												
Rule 457(p)												
Fee Offset Claims	1	Redwire Corp	S-3	333-274375	09/06/2023		14,315.00	\$ Unallocated (Universal) Shelf			\$ 129,904,575.00	
Fee Offset Sources	2	Redwire Corp	S-3	333-274375		09/06/2023						\$ 14,315.00

Rule 457(p) Statement of Withdrawal, Termination, or Completion:

¹ The registrant previously registered an indeterminate amount of securities having an aggregate offering price up to \$400,000,000, pursuant to a Registration Statement on Form S-3 (Registration No. 333-274375) filed with the Securities and Exchange Commission on September 6, 2023 (the "Prior Registration Statement") and declared effective on September 14, 2023. As of the date of this registration statement, the registrant sold an aggregate of \$270,095,425, representing \$29,765 in registration fees, of such securities under the Prior Registration Statement, leaving the balance of \$129,904,575, representing \$14,315 in registration fees, of such unsold securities under the Prior Registration Statement. Pursuant to Rule 457(p) under the Securities Act, the registration fee of \$14,315 that has already been paid and remains unused with respect to securities that were previously registered pursuant to the Prior Registration Statement and were not sold thereunder will continue to be applied to these securities included in this registration statement, and the offering of securities under the Prior Registration Statement will be deemed terminated as of the date of effectiveness of this registration statement.

Offset Note

² See note 1b.

Table 3: Combined Prospectuses ☑ Not Applicable

	Security Type	Security Class Title	Amount of Securities Previously Registered	Maximum Aggregate Offering Price of Securities Previously Registered	Form Type	File Number	Initial Effective Date
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Sheppard, Mullin, Richter & Hampton LLP
321 North Clark Street, 32nd Floor
Chicago, Illinois 60654
312.499.6300 main
312.499.6301 fax
www.sheppardmullin.com

August 7, 2025

Redwire Corporation
8226 Philips Highway, Suite 101
Jacksonville, FL 32256

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to Redwire Corporation, a Delaware corporation (the "Company"), in connection with the filing by the Company with the Securities and Exchange Commission (the "Commission") of a Registration Statement on Form S-3ASR (the "Registration Statement") for the purpose of registering under the Securities Act of 1933, as amended (the "Securities Act"), (a) common stock, par value \$0.0001 per share (the "Common Stock") of the Company; (b) preferred stock, par value \$0.0001 per share (the "Preferred Stock") of the Company; (c) warrants of the Company (the "Warrants"), which may be issued under one or more warrant agreements (each, a "Warrant Agreement") to be entered into between the Company and the warrant agent to be named therein (the "Warrant Agent"); (d) subscription rights (the "Subscription Rights") which may be issued under one or more subscription rights agreements (each, a "Subscription Rights Agreement") to be entered into between the Company and the rights agent to be named therein (the "Subscription Rights Agent"); and (e) units (the "Units" and, together with the Common Stock, the Preferred Stock, the Warrants, and the Subscription Rights, the "Securities") to be issued under one or more unit agreements to be entered into among the Company and a bank or trust company, as unit agent (the "Unit Agent"), and the holders from time to time of the Units (each such unit agreement, a "Unit Agreement"). The Securities are being registered for offering and sale from time to time on a delayed or continuous basis pursuant to Rule 415 under the Securities Act. This opinion letter is being furnished in accordance with the requirements of Item 601(b)(5)(i) of Regulation S-K of the Securities Act.

In connection with this opinion letter, we have reviewed and relied upon the Registration Statement, the Company's Certificate of Incorporation, as amended, filed with the Secretary of State of the State of Delaware (the "Certificate of Incorporation"), certified by the Secretary of State of the State of Delaware as of August 6, 2025 (the "Certificate"), the Company's Bylaws (the "Bylaws" and together with the Certificate, the "Charter Documents"), a certificate of the Secretary of State of the State of Delaware as to the formation and good standing of the Company under the laws of the State of Delaware as of August 6, 2025 (together, the "Good Standing Certificate"), the proceedings taken by the Company with respect to the authorization of the Securities pursuant to resolutions adopted by the board of directors of the Company, and such other documents, records, certificates, memoranda and other instruments as we deem necessary as a basis for this opinion letter. We have also obtained from public officials and officers of the Company certificates or comparable documents as to certain factual matters and, insofar as this opinion is based on matters of fact, we have relied on such certificates and comparable documents without independent investigation. We have made such other investigations as we have deemed relevant and necessary in connection with the opinions hereinafter set forth. We have also relied as to certain matters on information obtained from public officials, officers of the Company and other sources believed by us to be responsible.

In our examination of the documents referred to herein and in rendering the opinions expressed below, we have assumed, without independent investigation or verification: (i) the genuineness of all signatures on all agreements, instruments, corporate records, certificates and other documents submitted to us; (ii) the legal

capacity, competency and authority of all persons or entities executing all agreements, instruments, corporate records, certificates and other documents submitted to us; (iii) the authenticity and completeness of all agreements, instruments, corporate records, certificates and other documents submitted to us as originals; (iv) that all agreements, instruments, corporate records, certificates and other documents submitted to us as certified, electronic, facsimile, conformed, photostatic or other copies conform to the originals thereof, and that such originals are authentic and complete; (v) the due authorization, execution and delivery of all agreements, instruments, corporate records, certificates and other documents by all parties thereto (other than the Company); (vi) that no documents submitted to us have been amended or terminated orally or in writing, except as has been disclosed to us in writing; (vii) that the statements contained in the certificates and comparable documents of public officials, officers and representatives of the Company and other persons on which we have relied for the purposes of this opinion letter are true and correct on and as of the date hereof; (viii) that there has not been nor will there be any change in the good standing status of the Company from that reported in the Good Standing Certificate; and (ix) that each of the officers and directors of the Company has properly exercised his or her fiduciary duties. As to all questions of fact material to this opinion letter and as to the materiality of any fact or other matter referred to herein, we have relied (without independent investigation or verification) upon representations and certificates or comparable documents of officers and representatives of the Company. Our knowledge of the Company and its legal and other affairs is limited by the scope of our engagement, which scope includes the delivery of this opinion letter. We do not represent the Company with respect to all legal matters or issues. The Company may employ other independent counsel and, to our knowledge, handles certain legal matters and issues without the assistance of independent counsel.

With your consent, we have assumed that (i) each of the Warrants and any related warrant agreement, the Subscription Rights and any related subscription rights agreement, the Units and any related unit agreement, and any purchase, underwriting, sales or similar agreement (collectively, the “Documents”) will be governed by the internal laws of the State of New York and that the choice of law is legally enforceable, (ii) the Documents will contain all provisions required under the laws of the State of Delaware in respect of contracts for the sale of securities issued by a Delaware corporation, (iii) each of the Documents will be duly authorized, executed and delivered by the parties thereto, and (iv) each of the Documents will constitute valid and binding obligations of the parties thereto, enforceable against such parties in accordance with their respective terms.

We also have assumed that none of (i) the execution, delivery or performance of any of the Documents, (ii) the terms of any of the Securities to be established after the date hereof, (iii) the issuance or delivery of such Securities, or (iv) the compliance by the Company with the terms of such Securities will (a) violate any applicable law, rule or regulation to which the Company is then subject or the Charter Documents then in effect, (b) result in a breach of or default under any instrument or agreement then binding upon the Company or any of its properties, or (c) violate, or cause the Company not to comply with, any consent, approval, license, authorization, restriction or requirement imposed by, or any filing, recording or registration with, any court or governmental body having jurisdiction over the Company.

We have further assumed that: (i) the Registration Statement and any amendments thereto will be effective under the Securities Act (and such effectiveness shall not have been terminated or rescinded) and comply with all applicable laws at the time the Securities are offered and issued as contemplated by the Registration Statement, the prospectus included in the Registration Statement (the “Base Prospectus”), and any prospectus supplement, as applicable; (ii) an appropriate prospectus supplement relating to the Securities offered thereby will have been prepared and filed with the Commission in compliance with the Securities Act and will comply with all applicable laws at the time the Securities are offered and issued as contemplated by the Registration Statement, the Base Prospectus and such prospectus supplement; (iii) the terms of the Securities will conform to the descriptions thereof in the Registration Statement, the Base Prospectus and any prospectus supplement, as applicable, and the corporate action of the Company authorizing the issuance and sale of such Securities; (iv) all Securities will be issued and sold in compliance with the applicable provisions of the Securities Act and the securities or blue sky laws of various states and in the manner stated in the Registration Statement, the Base Prospectus and any prospectus supplement, as applicable; and (v) the number of shares of Common Stock or Preferred Stock, as the case may be, offered pursuant to the Registration Statement, the Base Prospectus and any prospectus supplement, as applicable, or, in the case of Preferred Stock, Warrants,

Subscription Rights and Units, as applicable, represented by, comprising or issuable upon exchange, exercise or conversion of such Securities, does not exceed, at the time of issuance of such Securities, the authorized but unissued shares of Common Stock or Preferred Stock, as the case may be.

Based upon the foregoing, and subject to the qualifications set forth herein, in our opinion:

1. With respect to any shares of Common Stock to be offered by the Company pursuant to the Registration Statement (including any shares of Common Stock duly issued upon the exchange, exercise or conversion of Securities that are exchangeable or exercisable for, or convertible into, Common Stock), when (a) the issuance of such shares of Common Stock has been duly authorized by all necessary corporate action of the Company and (b) such shares of Common Stock have been duly issued and delivered against payment of the consideration therefor (not less than the par value of the Common Stock) as contemplated by the Registration Statement, the Base Prospectus, any applicable prospectus supplement, any applicable purchase, underwriting, sales, or similar agreement, and such corporate action, such shares of Common Stock will be validly issued, fully paid and nonassessable.
2. With respect to any shares of Preferred Stock to be offered by the Company pursuant to the Registration Statement (including any shares of Preferred Stock duly issued upon the exchange, exercise or conversion of Securities that are exchangeable or exercisable for, or convertible into, Preferred Stock), when (a) a series of Preferred Stock has been duly established in accordance with the terms of the Certificate and applicable law, and authorized by all necessary corporate action of the Company, (b) the relative rights, preferences and limitations of such series of Preferred Stock have been designated by all necessary corporate action of the Company and set forth in a Certificate of Designation or amendment to the Certificate properly filed with the Secretary of State of the State of Delaware, (c) the issuance of such shares of Preferred Stock has been duly authorized by all necessary corporate action of the Company, (d) such shares of Preferred Stock have been duly issued and delivered against payment of the consideration therefor (not less than the par value of the Preferred Stock) as contemplated by the Registration Statement, Base Prospectus, any applicable prospectus supplement, any applicable Documents and such corporate action, and (e) if such shares of Preferred Stock are convertible into shares of Common Stock, such shares of Common Stock have been duly authorized and reserved for issuance by all necessary corporate action of the Company, such shares of Preferred Stock will be validly issued, fully paid and nonassessable.
3. When the Warrant Agreement to be entered into in connection with the issuance of any Warrants has been duly authorized, executed and delivered by the Warrant Agent and the Company; the specific terms of the Warrants have been duly authorized and established in accordance with the Warrant Agreement; and such Warrants have been duly authorized, executed, issued and delivered in accordance with the Warrant Agreement and the applicable underwriting or other agreement against payment therefor, such Warrants will constitute valid and binding obligations of the Company, enforceable in accordance with their terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability, and may be subject to possible judicial or regulatory actions giving effect to governmental actions or foreign laws affecting creditors' rights.
4. When the Subscription Rights Agreement to be entered into in connection with the issuance of any Subscription Rights has been duly authorized, executed and delivered by the Subscription Rights Agent and the Company; the specific terms of the Subscription Rights have been duly authorized and established in accordance with the Subscription Rights Agreement; and such Subscription Rights have been duly authorized, executed, issued and delivered in accordance with the Subscription Rights Agreement and the applicable Documents against payment therefor, such Subscription Rights will constitute valid and binding obligations of the Company, enforceable in accordance with their terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability, and may be subject to possible judicial or regulatory actions giving effect to governmental actions or foreign laws affecting creditors' rights.

5. When the Unit Agreement to be entered into in connection with the issuance of any Units has been duly authorized, executed and delivered by the Unit Agent and the Company; the specific terms of the Units have been duly authorized and established in accordance with the Unit Agreement; and such Units have been duly authorized, executed, issued and delivered in accordance with the Unit Agreement and the applicable underwriting or other agreement against payment therefor, such Units will constitute valid and binding obligations of the Company, enforceable in accordance with their terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability, and may be subject to possible judicial or regulatory actions giving effect to governmental actions or foreign laws affecting creditors' rights.

The foregoing opinions are subject to the additional qualifications that we express no opinion as to (i) waivers of defenses, subrogation and related rights, rights to trial by jury, rights to object to venue, or other rights or benefits bestowed by operation of law, (ii) releases or waivers of unmatured claims or rights or (iii) provisions for liquidated damages and penalties, penalty interest and interest on interest.

We do not express any opinion herein on any laws other than the law of the State of New York and the Delaware General Corporation Law.

We hereby consent to the filing of this opinion letter as Exhibit 5.1 to the Registration Statement. We also hereby consent to the reference to our firm under the heading "Legal Matters" in the Base Prospectus. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

This opinion letter is rendered as of the date first written above, and we disclaim any obligation to advise you of facts, circumstances, events or developments which hereafter may be brought to our attention and which may alter, affect or modify the opinion expressed herein. Our opinion is expressly limited to the matters set forth above, and we render no opinion, whether by implication or otherwise, as to any other matters relating to the Company, the Charter Documents, the Securities, or the Registration Statement.

Very truly yours,

/s/ Sheppard, Mullin, Richter & Hampton LLP

SHEPPARD, MULLIN, RICHTER & HAMPTON LLP



KPMG LLP
811 Main Street
Houston, TX 77002

Consent of Independent Registered Public Accounting Firm

We consent to the use of our report dated March 11, 2025, with respect to the consolidated financial statements of Redwire Corporation and subsidiaries, incorporated herein by reference, and to the reference to our firm under the heading "Experts" in the prospectus.

/s/ KPMG LLP

Houston, Texas
August 7, 2025

KPMG LLP, a Delaware limited liability partnership and a member firm of the KPMG global organization of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee.

CONSENT OF INDEPENDENT AUDITORS

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of Redwire Corporation of our report dated April 2, 2025 relating to the financial statements of Edge Autonomy Intermediate Holdings, LLC, which appears in Redwire Corporation's Current Report on Form 8-K dated April 3, 2025. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ PricewaterhouseCoopers LLP
Los Angeles, California
August 7, 2025