

PROSPECTUS



Up to 375,000 Shares of Common Stock

Offered by the Selling Stockholders

This prospectus relates to the proposed resale or other disposition by the selling stockholder identified in this prospectus, or its pledgees, donees, transferees or other successors in interest, from time to time, of up to 375,000 shares, (the “Shares”), of our common stock, par value \$0.001 per share, or common stock, issuable upon exercise of certain warrant certificates, (the “Warrant Certificates”), granted to Perceptive Credit Holdings IV, LP (“Perceptive”), in connection with that certain Credit Agreement and Guaranty, (the “Credit Agreement”), dated as of November 16, 2022 (as amended pursuant to that certain First Amendment to Credit Agreement and Guaranty, dated as of May 10, 2023, as amended pursuant to that certain Second Amendment to Credit Agreement and Guaranty, dated as of August 4, 2023, as amended pursuant to that certain Third Amendment to Credit Agreement and Guaranty, dated as of February 29, 2024, as amended pursuant to that certain Fourth Amendment to Credit Agreement and Guaranty, dated as of October 30, 2024, as amended pursuant to that certain Fifth Amendment to Credit Agreement and Guaranty, dated as of February 28, 2025, and as amended pursuant to that certain Sixth Amendment to Credit Agreement and Guaranty, dated as of February 25, 2026), by and between us and Perceptive, as lender and administrative agent. We are registering the Shares on behalf of the selling stockholder, to be offered and sold from time to time, to satisfy certain registration rights that we have granted to the selling stockholder.

The selling stockholder may resell or dispose of the Shares, or interests therein, at fixed prices, at prevailing market prices at the time of sale or at prices negotiated with purchasers, to or through underwriters, broker-dealers, agents, or through any other means described in the section of this prospectus entitled “Plan of Distribution.” The selling stockholder will bear its respective commissions and discounts, if any, attributable to the sale or disposition of the Shares, or interests therein, held by such selling stockholder. We will bear all costs, expenses and fees in connection with the registration of the Shares. We will not receive any of the proceeds from the sale of the Shares by the selling stockholder. To the extent the Warrant Certificates are exercised on a cash basis, if at all, we will receive proceeds from the exercise of the Warrant Certificate. We cannot predict when or in what amounts the selling stockholder may sell any of the Shares offered by this prospectus.

This prospectus may not be used to offer and sell securities unless accompanied by the applicable prospectus supplement.

Our common stock is listed on the Nasdaq Global Market under the symbol “BDSX.” On May 28, 2026, the last reported sale price of our common stock was \$15.99.

Investing in our securities involves significant risks. We strongly recommend that you read carefully the risks we describe in this prospectus and in any accompanying prospectus supplement, as well as the risk factors that are incorporated by reference into this prospectus from our filings made with the Securities and Exchange Commission. See “[Risk Factors](#)” on page 6 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is May 29, 2026

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ABOUT THIS PROSPECTUS

You should rely only on the information contained or incorporated by reference in this prospectus. We have not, and the selling stockholder has not, authorized anyone else to provide you with different or additional information from that contained in this prospectus. We take no responsibility for, and can provide no assurance as to the reliability of, any information that others may give. The selling stockholder is offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. You should assume that the information appearing in this prospectus is accurate only as of the date on the front cover of this prospectus, regardless of the time of delivery of this prospectus or of any sale of common stock. Our business, financial condition, results of operations and prospects may have changed since such date. The terms “Biodesix,” the “Company,” “our,” “us” and “we,” as used in this prospectus, refer to Biodesix, Inc., unless we state otherwise or the context indicates otherwise.

This prospectus and the information incorporated herein by reference include trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference in this prospectus are the property of their respective owners.

PROSPECTUS SUMMARY

The following summary highlights information contained elsewhere in this prospectus. This summary is not complete and does not contain all of the information that you need to consider before making an investment decision. For a more complete understanding of our company, you should read and consider carefully the more detailed information included or incorporated by reference in this prospectus and any applicable prospectus supplement, including the factors described under the heading “Risk Factors” of this prospectus, as well as the information incorporated by reference from our most recent Annual Report on Form 10-K and our most recent Quarterly Report on Form 10-Q, before making an investment decision.

Overview of the Company

We are a leading diagnostic solutions company, driven to improve clinical care and outcomes for patients. The Company develops diagnostic tests using a multi-omic approach to harness the strengths of different technologies that are best suited to address important clinical questions. We derive our revenue from two sources: (i) Biodesix Diagnostic Tests (Diagnostic Tests), providing lung diagnostic testing services for healthcare providers associated with our five blood-based tests and (ii) Biodesix Development Services (Development Services) providing diagnostic testing services to biopharmaceutical, life sciences, and diagnostic companies.

Diagnostic Tests

We offer five blood-based lung diagnostic tests for use across the lung cancer continuum of care:

Diagnosis – Nodule Management

- *Nodify CDT*[®] and *Nodify XL2*[®] tests, marketed as *Nodify Lung*[®] Nodule Risk Assessment, assess a suspicious lung nodule’s risk of lung cancer to help identify the most appropriate treatment pathway. The *Nodify CDT* and *XL2* tests have an established average turnaround time of one and five business days, respectively, from receipt of the blood sample, providing physicians with timely results to guide diagnostic planning. The *Nodify CDT* test is a blood-based test that detects the presence of seven autoantibodies associated with the presence of tumors. Elevated levels of the autoantibodies in patients with lung nodules indicate an increased risk of lung cancer to help identify patients that may benefit from timely intervention. The *Nodify XL2* test is a blood-based proteomic test that evaluates the likelihood that a lung nodule is benign to help identify patients that may benefit from surveillance imaging. We believe we are the only company to offer two commercial blood-based tests to help physicians reclassify risk of malignancy in patients with suspicious lung nodules.

Lung Cancer Treatment & Monitoring

- *GeneStrat*[®] *ddPCR*, *GeneStrat NGS*[®] and *VeriStrat*[®] tests, marketed as part of our *IQLung*[™] testing strategy, are used following diagnosis of lung cancer to detect the presence of mutations in the tumor and the state of the patient’s immune system to help guide treatment decisions. The *GeneStrat ddPCR* tumor genomic profiling test and the *VeriStrat* immune profiling test have an established average turnaround time of two business days from receipt of the blood sample, and the *GeneStrat NGS* test has an established average turnaround time of three business days from receipt of the blood sample, providing physicians with timely results to facilitate treatment decisions. The *GeneStrat ddPCR* test evaluates the presence of actionable mutations in lung cancer. The test is covered independent of stage and can be used multiple times per patient to monitor changes in mutation status. The *GeneStrat NGS* test is a broad 52 gene panel, including guideline recommended mutations that help identify advanced

stage patients eligible for targeted therapy or clinical trial enrollment. The VeriStrat test is a blood-based proteomic test that provides a personalized view of each patient's immune response to their lung cancer.

Development Services

Biodesix Development Services enable the world's leading biopharmaceutical, life sciences, and research institutions with scientific, technological, and operational capabilities that fuel the development of diagnostic tests, tools, and therapeutics. We provide development services to enable therapeutic clinical trials, the validation of life sciences tools and diagnostics, and the discovery, development, and commercialization of diagnostics. Biodesix Development Services have been utilized by over 65 industry clients and academic partners.

We continuously revisit our technology strategy and roadmap to integrate new technologies into our evolving offering, which ultimately support the addition of new service and product revenue offerings. We believe that no single technology can interrogate the complexity of the human disease state to help solve all clinical questions. For that reason, we employ a multi-omic approach to solving diagnostic challenges.

We offer end-to-end diagnostic solutions, including translational research, initial biomarker discovery, assay design, development, and validation, testing of clinical trial samples, regulatory, reimbursement, commercialization, and logistical support services. We offer our existing on-market tests, a suite of other research tests and the capability to custom design and develop novel tests for use by our customers.

While our Development Services revenue continues to grow, it is important to note that we benefit from these partnerships in ways that expand beyond revenue. We are continuously expanding our knowledge and biological understanding of multiple diseases and the rapidly evolving treatment and regulatory approval landscape.

Implications of Being a Smaller Reporting Company

We are a "smaller reporting company" as defined in the Securities Exchange Act of 1934, as amended (the "Exchange Act"). We will be able to take advantage of the scaled disclosures available to smaller reporting companies for so long as our voting and non-voting common stock held by nonaffiliates is less than \$250.00 million measured on the last business day of our second fiscal quarter, or our annual revenue is less than \$100.00 million during the most recently completed fiscal year and our voting and non-voting common stock held by nonaffiliates is less than \$700.00 million measured on the last business day of our second fiscal quarter.

Our Corporate Information

We were incorporated in Delaware in 2005 as Elston Technologies, Inc. Our principal executive offices are located at 919 West Dillon Rd., Louisville, Colorado 80027, and our telephone number is (303) 417-0500. On June 20, 2006, we changed our name to Biodesix, Inc.

Our website address is www.biodesix.com. Information contained on, or accessible from, or hyperlinked to, our website is not incorporated by reference into this prospectus, and you should not consider information on our website to be part of this prospectus, or in deciding whether to purchase our securities.

Our filings with the SEC are posted on our website at www.biodesix.com. Other than the specifically incorporated SEC filings, the information found on or accessible through our website is not part of this or any other report we file with or furnish to the SEC. The public can also obtain copies of these filings by accessing the SEC's website at <http://www.sec.gov>.

Perceptive Warrants

On November 21, 2022, as consideration for the Credit Agreement, the Company issued Perceptive a warrant to purchase up to 250,000 shares of the Company's common stock. On May 10, 2023, as consideration for the First Amendment to the Credit Agreement, the Company issued Perceptive a warrant to purchase up to 25,000 shares of the Company's common stock. On February 25, 2026, as consideration for the Sixth Amendment to the Credit Agreement, the Company issued Perceptive a warrant to purchase up to 100,000 shares of the Company's common stock. In connection with the warrant issued on February 25, 2026, the Company agreed to file, within 90 days of such issuance, a registration statement on Form S-3 covering the resale of all outstanding Perceptive warrants.

THE OFFERING

Shares of common stock that may be offered by the selling stockholders	Up to 375,000 shares of our common stock.
Terms of the offering	The selling stockholder will determine when and how they will sell the Shares offered in this prospectus, as described in the “Plan of Distribution.”
Use of proceeds	We will not receive any proceeds from the sale of the Shares by the selling stockholder in this offering. See “Use of Proceeds.” To the extent the Warrant Certificates are exercised on a cash basis, if at all, we will receive proceeds from the exercise of the Warrant Certificates. We currently intend to use these proceeds, if any, for working capital and general corporate purposes. See “Use of Proceeds” in this prospectus for more information.
Risk Factors	See “Risk Factors” in this prospectus and the other information included in, or incorporated by reference into, this prospectus or any prospectus supplement for a discussion of certain factors you should carefully consider before deciding to invest in shares of our common stock.
NASDAQ Global Market symbol	“BDSX”

RISK FACTORS

Investing in our common stock involves a high degree of risk. Before deciding whether to invest in our common stock, you should consider carefully the risks and uncertainties described under the section captioned “Risk Factors” contained in our most recent Annual Report on Form 10-K, our most recent Quarterly Report on Form 10-Q and other filings we make with the Securities and Exchange Commission (the “SEC”) from time to time, which are incorporated by reference herein in their entirety, together with the other information in this prospectus and in the documents incorporated by reference in this prospectus.

The risks described in our most recent Annual Report on Form 10-K, our most recent Quarterly Report on Form 10-Q and the other filings we make with the SEC incorporated by reference herein are not the only ones facing our company. Additional risks and uncertainties may also impair our business operations. If any of the risks described in our most recent Annual Report on Form 10-K, our most recent Quarterly Report on Form 10-Q and the other filings incorporated by reference herein occurs, our business, financial condition, results of operations and future growth prospects could be harmed. In these circumstances, the market price of our common stock could decline, and you may lose all or part of your investment.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus includes and incorporates by reference “forward-looking statements” within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and releases issued by the SEC and within the meaning of Section 27A of the Securities Act of 1933, as amended (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 are “forward-looking statements” for purposes of this prospectus. In some cases, you can identify forward-looking statements by terminology such as “may,” “could,” “will,” “would,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “intend,” “predict,” “seek,” “contemplate,” “project,” “continue,” “potential,” “ongoing,” “goal,” or the negative of these terms or other comparable terminology. These forward-looking statements include, but are not limited to, statements about:

- our inability to achieve or sustain profitability;
- our ability to attain significant market acceptance among payers, providers, clinics, patients, and biopharmaceutical companies for our diagnostic tests;
- difficulties managing our growth, which could disrupt our operations;
- failure to retain sales and marketing personnel, and failure to increase our sales and marketing capabilities or develop broad awareness of our diagnostic tests to generate revenue growth
- failure to maintain our current relationships, or enter into new relationships, with biopharmaceutical companies;
- significant fluctuation in our operating results, causing our operating results to fall below expectations or any guidance we provide;
- product performance and reliability to maintain and grow our business;
- third-party suppliers, including courier services and single source suppliers, which make us vulnerable to supply problems and price fluctuations;
- the impact of a pandemic, epidemic, or outbreak of an infectious disease in the United States (U.S.) or worldwide;
- natural or man-made disasters and other similar events negatively impacting our business, financial condition, and results of operations;

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- failure to offer high-quality support for our diagnostic tests, which may adversely affect our relationships with providers and negatively impact our reputation among patients and providers;
- our inability to continue to innovate and improve our diagnostic tests and services we offer;
- security or data privacy breaches or other unauthorized or improper access;
- significant disruptions in our information technology systems;
- the incurrence of substantial liabilities and limiting or halting the marketing and sale of our diagnostic tests due to product liability lawsuits;
- our inability to compete successfully with competition from many sources, including larger companies;
- performance issues, service interruptions or price increases by our shipping carriers;
- cost-containment efforts of our customers, purchasing groups and integrated delivery networks having a material adverse effect on our sales and profitability;
- potential effects of litigation and other proceedings;
- general economic and financial market conditions, including enhanced U.S. tariffs, import/export restrictions or other trade barriers, which may have a negative effect on global economic conditions, financial markets and our business;
- our ability to attract and retain key personnel;
- current and future debt financing placing restrictions on our operating and financial flexibility;
- our need to raise additional capital to fund our existing operations, develop our platform, commercialize new diagnostic tests, or expand our operations;
- the acquisition of other businesses, which could require significant management attention, disrupt our business, dilute stockholder value and adversely affect our results of operations;
- the uncertainty of the insurance coverage and reimbursement status of newly approved diagnostic tests;
- future healthcare reform measures that could hinder or prevent the commercial success of our diagnostic tests;
- compliance with anti-corruption, anti-bribery, anti-money laundering and similar laws;
- compliance with healthcare fraud and abuse laws;
- our ability to develop, receive regulatory clearance or approval or certification for, and introduce new diagnostic tests or enhancements to existing diagnostic tests that will be accepted by the market in a timely manner;
- failure to comply with ongoing FDA or other domestic and foreign regulatory authority requirements, or unanticipated problems with our diagnostic tests, causing them to be subject to restrictions or withdrawal from the market;
- future product recalls;
- legal proceedings initiated by third parties alleging that we are infringing, misappropriating, or otherwise violating their intellectual property rights, the outcome of which would be uncertain;
- the volatility of the trading price of our common stock;
- no assurance that our common stock will maintain compliance with the minimum bid price requirement or other applicable listing standards of The Nasdaq Stock Market LLC (Nasdaq) or another national securities exchange;

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- inaccurate estimates or judgments relating to our critical accounting policies, which could cause our operating results to fall below the expectations of securities analysts and investors; and
- other risks, uncertainties and factors, including those set forth under “Risk Factors.”

These statements relate to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. In evaluating such forward-looking statements, you should specifically consider various factors that may cause actual results to differ materially from current expectations, including the risks outlined under the heading “Risk Factors” contained in this prospectus and any related free writing prospectus, and in any other documents incorporated herein or therein. Any forward-looking statement in this prospectus reflects our current view with respect to future events and is subject to these and other risks, uncertainties and assumptions relating to our operations, results of operations, industry and future growth. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

This prospectus and the documents incorporated by reference may also contain estimates, projections and other information concerning our industry and our business, including estimated market size, projected growth rates and the incidence of certain medical conditions. Information that is based on estimates, forecasts, projections or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained this industry, business, market, medical and other information from reports, research surveys, studies and similar data prepared by third parties, industry, medical and general publications, government data and similar sources. In some cases, we do not expressly refer to the sources from which this information is derived. In that regard, when we refer to one or more sources of this type of information in any paragraph, you should assume that other information of this type appearing in the same paragraph is derived from the same sources, unless otherwise expressly stated or the context otherwise requires.

USE OF PROCEEDS

We will not receive any proceeds from the sale of the Shares covered by this prospectus and any accompanying prospectus supplement. All proceeds from the sale of the Shares will be received by the selling stockholder named herein. We will bear all other costs, fees and expenses incurred in effecting the registration of the Shares covered by this prospectus and any accompanying prospectus supplement, including, without limitation, all registration and filing fees, Nasdaq listing fees and fees and expenses of our counsel and our accountants, in accordance with the terms of the Warrant Certificates. The selling stockholder will pay any discounts, commissions, and fees of underwriters, selling brokers, dealer managers or similar securities industry professionals incurred by such selling stockholder in disposing of the Shares covered by this prospectus.

The holder of the Warrant Certificates is not obligated to exercise the Warrant Certificates, and we cannot predict whether the holder of the Warrant Certificates will choose to exercise the Warrant Certificates. We may receive proceeds from any cash exercise of the Warrant Certificates. We currently intend to use such proceeds, if any, for working capital and general corporate purposes.

SELLING STOCKHOLDER

This prospectus covers the resale from time to time of up to 375,000 Shares issuable upon the vesting and exercise of the Warrant Certificates.

The selling stockholder may offer and sell, from time to time, any of the Shares described under the column “Number of Shares Being Offered Hereby (Maximum Number) That May Be Sold” in the table below. Except for the ownership of any securities and the Credit Agreement described above, the selling stockholder has not had any material relationship with us within the past three years.

As used in this prospectus, the term “selling stockholder” includes the selling stockholder listed in the table below, together with any additional selling stockholders listed in a subsequent amendment to this prospectus, and their donees, pledgees, assignees, transferees, distributees and successors-in-interest that receive shares in any non-sale transfer after the date of this prospectus.

The table below lists the selling stockholder and other information regarding the beneficial ownership of the Shares by the selling stockholder as of May 12, 2026. The following table also provides the number of Shares that may be sold by the selling stockholder under this prospectus and that the selling stockholder will beneficially own assuming all the Shares that may be offered pursuant to this prospectus are sold. The number of shares described under the column “Beneficial Ownership Prior to this Offering” for the selling stockholder includes all shares of our common stock beneficially held by the selling stockholder as of May 12, 2026, which includes the Shares issuable upon the vesting and exercise of the Warrant Certificates. There is a limitation on the aggregate number of shares of common stock beneficially owned by the selling stockholder set forth in the Warrant Certificates (the “Beneficial Ownership Limitation”), due to which the Warrant Certificates may not be exercised if the aggregate number of shares of common stock beneficially owned by the selling stockholder immediately following such exercise would exceed 9.99%. Because the selling stockholder may dispose of all, none or some portion of their Shares, no estimate can be given as to the number of Shares that will be beneficially owned by a selling stockholder upon termination of this offering.

For purposes of the table below, however, we have assumed that after termination of this offering none of the Shares covered by this prospectus will be beneficially owned by the selling stockholder and further assumed that the selling stockholder will not acquire beneficial ownership of any additional Shares during the offering. In addition, the selling stockholder may have sold, transferred or otherwise disposed of, or may sell, transfer or otherwise dispose of, at any time and from time to time, the Shares in transactions exempt from the registration requirements of the Securities Act after the date on which the information in the table is presented. See the section titled “Plan of Distribution.”

<u>Name and Address of Selling Stockholder⁽¹⁾</u>	<u>Beneficial Ownership Prior to this Offering⁽²⁾</u>		<u>Number of Shares Being Offered Hereby (Maximum Number) That May Be Sold⁽³⁾</u>	<u>Beneficial Ownership After the Sale of the Maximum Number of Shares⁽⁴⁾</u>	
	<u>Number</u>	<u>Percent</u>		<u>Number</u>	<u>Percent</u>
Perceptive Credit Holdings IV, LP	483,694	4.67%	375,000	108,694	1.05%

- (1) All information regarding the selling stockholder was provided by the selling stockholder as of May 12, 2026. Perceptive Credit Advisors, LLC (“Perceptive Credit”) is the investment manager to Perceptive and PCOF EQ AIV, LP (“AIV”), and accordingly, may be deemed to beneficially own the securities directly held by Perceptive and AIV. Perceptive Advisors LLC is the general partner of Perceptive Credit, Joseph Edelman is the managing member of Perceptive Advisors LLC, and accordingly, Perceptive Advisors LLC or Mr. Edelman may be deemed to beneficially own the securities held by Perceptive and AIV. Perceptive Credit, Perceptive Advisors LLC and Mr. Edelman disclaim beneficial ownership of such shares except to the extent of its or his pecuniary interest therein. The principal business address and address for notice of Perceptive is 51 Astor Place, 10th Floor, New York, New York 10003.

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- (2) The shares reported under “Beneficial Ownership Prior to this Offering” includes (i) 375,000 shares of common stock underlying the Warrant Certificates held by Perceptive, (ii) 51,828 shares of common stock held by Perceptive and (iii) 56,866 shares of common stock held by AIV.
- (3) The number of shares of common stock in the column “Number of Shares Being Offered Hereby (Maximum Number) That May Be Sold” represents all of the Shares that the selling stockholder may offer and sell from time to time under this prospectus, consisting of all of the Shares issuable upon the exercise of the Warrant Certificates, without giving effect to the Beneficial Ownership Limitation.
- (4) The selling stockholder has not informed us, and we do not know, when or in what amounts the selling stockholder may offer for sale the Shares pursuant to this offering. For purposes of this table, we have assumed that the selling stockholder will have sold all of the Shares covered by this prospectus upon the completion of this offering.

PLAN OF DISTRIBUTION

We are registering the Shares issued to the selling stockholder to permit the sale, transfer or other disposition of these Shares by the selling stockholder or their donees, pledgees, transferees or other successors-in-interest from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholders of its Shares. We will, or will procure to, bear all fees and expenses incident to our obligation to register the Shares. In the event that the selling stockholder elects to sell its Shares through an underwritten offering on a firm commitment or best efforts basis, we will amend the registration statement to which this prospectus relates to disclose all relevant and material information regarding such offering and sale.

The selling stockholder may sell all or a portion of the shares of common stock beneficially owned by it and the Shares offered hereby from time to time. If the Shares are sold through underwriters or broker-dealers, the selling stockholder will be responsible for underwriting discounts (it being understood that the selling stockholder shall not be deemed to be underwriters solely as a result of their participation in this offering) or commissions or agent's commissions. The Shares may be sold on any national securities exchange or quotation service on which the Shares may be listed or quoted at the time of sale, in the over-the-counter market or in transactions otherwise than on these exchanges or systems or in the over-the-counter market and in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions. The selling stockholder may use any one or more of the following methods when selling their Shares:

- ordinary brokerage transactions and transactions in which a broker-dealer solicits purchasers;
- block trades in which a broker-dealer will attempt to sell the Shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- "at-the-market" or through market makers or into an existing market for the Shares;
- short sales entered into after the effective date of the registration statement of which this prospectus is a part;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise, after the effective date of the registration statement of which this prospectus is a part;
- through the distribution of the Shares by any selling stockholders to its partners, members or stockholders;
- through broker-dealers that agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- through one or more underwritten offerings on a firm commitment or best efforts basis;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The selling stockholder also may resell all or a portion of the Shares in open market transactions in reliance upon Rule 144, as permitted by that rule, or Section 4(a)(1) under the Securities Act, if available, rather than under this prospectus, provided that they meet the criteria and conform to the requirements of those provisions.

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Broker-dealers engaged by the selling stockholder may arrange for other broker-dealers to participate in sales. If the selling stockholder effects such transactions by selling Shares to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling stockholder or commissions from purchasers of the Shares for whom they may act as agent or to whom they may sell as principal. Such commissions will be in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction will not be in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2121.01.

In connection with sales of the Shares or otherwise, the selling stockholder may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the Shares in the course of hedging in positions they assume. The selling stockholder may also sell its Shares short and if such short sale takes place after the date that this registration statement is declared effective by the SEC, the selling stockholder may deliver its Shares covered by this prospectus to close out short positions and to return borrowed shares of common stock in connection with such short sales. The selling stockholder may also loan or pledge its shares of common stock to broker-dealers that in turn may sell such shares, to the extent permitted by applicable law. The selling stockholder may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of Shares offered by this prospectus, which Shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). Notwithstanding the foregoing, the selling stockholder has been advised that it may not use its Shares, the resale of which has been registered on this registration statement, to cover short sales of our common stock made prior to the date the registration statement, of which this prospectus forms a part, has been declared effective by the SEC.

The selling stockholder may, from time to time, pledge or grant a security interest in some or all of the shares of common stock owned by it and, if it defaults in the performance of its secured obligations, the pledgees or secured parties may offer and sell the Shares from time to time pursuant to this prospectus or any amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act, amending, if necessary, the list of the selling stockholder to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholder also may transfer and donate the Shares in other circumstances in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

The selling stockholder and any broker-dealer or agents participating in the distribution of the Shares may be deemed to be “underwriters” within the meaning of Section 2(a)(11) of the Securities Act in connection with such sales. In such event, any commissions paid, or any discounts or concessions allowed to, any such broker-dealer or agent and any profit on the resale of the Shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Selling stockholders who are “underwriters” within the meaning of Section 2(a)(11) of the Securities Act will be subject to the applicable prospectus delivery requirements of the Securities Act including Rule 172 thereunder and may be subject to certain statutory liabilities of, including but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Exchange Act.

The selling stockholder has informed the Company that it is not a registered broker-dealer and does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the Shares. Upon the Company being notified in writing by the selling stockholder that any material arrangement has been entered into with a broker-dealer for the sale of Shares through a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer, a supplement to this prospectus will be filed, if required, pursuant to Rule 424(b) under the Securities Act, disclosing (i) the name of each such selling stockholder and of the participating broker-dealer(s), (ii) the number of shares of common stock involved, (iii) the price at which such shares of common stock were sold, (iv) the commissions paid or discounts or

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concessions allowed to such broker-dealer(s), where applicable, (v) that such broker-dealer(s) did not conduct any investigation to verify the information set out in this prospectus, and (vi) other facts material to the transaction.

Under the securities laws of some U.S. states, the Shares may be sold in such states only through registered or licensed brokers or dealers. In addition, in some U.S. states the Shares may not be sold unless such Shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

There can be no assurance that the selling stockholder will sell any or all of the Shares registered pursuant to the shelf registration statement, of which this prospectus forms a part.

The selling stockholder and any other person participating in such distribution will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including, without limitation, to the extent applicable, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the Shares by the selling stockholder and any other participating person. To the extent applicable, Regulation M may also restrict the ability of any person engaged in the distribution of the Shares to engage in market-making activities with respect to the Shares. All of the foregoing may affect the marketability of the Shares and the ability of any person or entity to engage in market-making activities with respect to the Shares.

We will pay all expenses of the registration of the Shares, including, without limitation, SEC filing fees and expenses of compliance with state securities or “blue sky” laws; provided, however, that the selling stockholder will pay all underwriting discounts and selling commissions, if any, and any related legal expenses incurred by it.

DESCRIPTION OF CAPITAL STOCK

The following description summarizes some of the terms of capital stock. Because it is only a summary, it does not contain all the information that may be important to you and is subject to and qualified in its entirety by reference to our amended and restated certificate of incorporation, or the Certificate of Incorporation, and amended and restated bylaws, or the Bylaws, which are filed as exhibits to our most recent Annual Report on Form 10-K and are incorporated by reference herein. We encourage you to read our Certificate of Incorporation and our Bylaws for additional information.

General

Our charter authorizes us to issue up to 200,000,000 shares of common stock, par value \$0.001 per share, and 5,000,000 shares of preferred stock, par value \$0.001 per share. The following summary sets forth some of the general terms of our common stock. Because this is a summary, it does not contain all of the information that may be important to you. For a more detailed description of our common stock, you should read our amended and restated certificate of incorporation and the amended and restated bylaws, each of which is an exhibit to our Annual Report on Form 10-K to which this summary is also an exhibit, and the applicable provisions of the Delaware General Corporation Law (the “DGCL”).

Common stock

As of May 20, 2026, we had outstanding 10,355,809 shares of common stock.

Voting Rights

Each holder of common stock is entitled to one vote for each share on all matters properly submitted to a vote of the stockholders, including the election of directors. Under our amended and restated certificate of incorporation and amended and restated bylaws, our stockholders do not have cumulative voting rights. Because of this, the holders of a majority of the shares of common stock entitled to vote in any election of directors can elect all of the directors standing for election.

Dividend Rights

Subject to preferences that may apply to any then-outstanding preferred stock, the holders of common stock are entitled to receive ratably those dividends, if any, as may be declared from time to time by the Board of Directors out of legally available funds. We do not anticipate paying any cash dividends in the foreseeable future.

Liquidation Rights

In the event of our liquidation, dissolution or winding up, holders of common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then-outstanding shares of preferred stock.

Preemptive or Similar Rights

Holders of common stock have no preemptive, conversion or subscription rights and there are no redemption or sinking fund provisions applicable to the common stock. The rights, preferences and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate in the future.

Reverse Stock Split

On September 12, 2025, the Company filed a certificate of amendment of its Certificate of Incorporation with the Secretary of State of the State of Delaware, which caused each twenty (20) shares of common stock

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either issued and outstanding or held by the Company in treasury stock immediately prior to 12:01 a.m., Eastern Time, on September 15, 2025 to automatically and without any action on the part of the respective holders thereof, be combined and converted into one (1) share of common stock without increasing or decreasing the par value of each share.

Preferred stock

Our Board of Directors may, without further action by our stockholders, fix the rights, preferences, privileges and restrictions of up to an aggregate of 5,000,000 shares of preferred stock in one or more series and authorize their issuance. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. Any issuance of preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders would receive dividend payments and payments on liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deterring or preventing a change of control or other corporate action.

Currently, no shares of preferred stock are outstanding. We have no present plan to issue any shares of preferred stock.

Certificate of Incorporation and Bylaws

Our amended and restated certificate of incorporation and amended and restated bylaws:

- permit our Board of Directors to issue up to 5,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate, including the right to approve an acquisition or other change of control;
- provide that the authorized number of directors may be changed only by resolution of our Board of Directors;
- provide that our Board of Directors will be classified into three classes of directors;
- provide that, subject to the rights of any series of preferred stock to elect directors, directors may only be removed for cause, which removal may be effected, subject to any limitation imposed by law, by the holders of at least a majority of the voting power of all of our then-outstanding shares of the capital stock entitled to vote generally at an election of directors; and
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum.
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent or electronic transmission, except as otherwise expressly provided by the terms of any series of preferred stock permitting the holders of preferred stock to act by written consent;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide advance notice in writing, and also specify requirements as to the form and content of a stockholder's notice;
- provide that special meetings of our stockholders may be called only by the chairman of our Board of Directors, our chief executive officer or by our Board of Directors pursuant to a resolution adopted by a majority of the total number of authorized directors; and
- do not provide for cumulative voting rights, therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose.

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The amendment of any of these provisions would require approval by the holders of at least 66 2/3% of the voting power of all of our then-outstanding capital stock entitled to vote generally in the election of directors, voting together as a single class.

The combination of these provisions make it more difficult for our existing stockholders to replace our Board of Directors as well as for another party to obtain control of us by replacing our Board of Directors. Since our Board of Directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our Board of Directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

These provisions are intended to enhance the likelihood of continued stability in the composition of our Board of Directors and its policies and to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to reduce our vulnerability to hostile takeovers and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of delaying changes in our control or management. As a consequence, these provisions may also inhibit fluctuations in the market price of our stock.

Delaware business combination statute

We are subject to Section 203 of the DGCL. Subject to certain exceptions, Section 203 prevents a publicly held Delaware corporation from engaging in a “business combination” with any “interested stockholder” for three years following the date that the person became an interested stockholder, unless the interested stockholder attained such status with the approval of our Board of Directors or unless the business combination is approved in a prescribed manner. A “business combination” includes, among other things, a merger or consolidation involving us and the “interested stockholder” and the sale of more than 10% of our assets. In general, an “interested stockholder” is any entity or person beneficially owning 15% or more of our outstanding voting stock and any entity or person affiliated with or controlling or controlled by such entity or person.

Amendment of certificate of incorporation and bylaws

DGCL provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation’s certificate of incorporation or bylaws, unless a corporation’s certificate of incorporation or bylaws, as the case may be, requires a greater percentage.

Exclusive forum selection

Our amended and restated certificate of incorporation specifies that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for most legal actions involving actions brought against us by stockholders. Notwithstanding the foregoing, the exclusive forum provision will not apply to any claim to enforce any liability or duty created by the Exchange Act or the Securities Act and for which the federal courts have exclusive jurisdiction. We believe this exclusive forum provision benefits us by providing increased consistency in the application of Delaware law by chancellors particularly experienced in resolving corporate disputes, efficient administration of cases on a more expedited schedule relative to other forums and protection against the burdens of multi-forum litigation. However, the provision may have the effect of discouraging lawsuits against our directors and officers. The enforceability of similar choice of forum provisions in other companies’ certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with any applicable action brought against us, a court could find the choice of forum provisions contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in such action.

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Listing on The Nasdaq Global Market

Our common stock is listed on The Nasdaq Global Market under the symbol “BDSX.”

Authorized but unissued shares

The authorized but unissued shares of common stock and preferred stock are available for future issuance without stockholder approval, subject to any limitations imposed by the listing requirements of The Nasdaq Global Market. These additional shares may be used for a variety of corporate finance transactions, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could make it more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

Transfer agent and registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent’s address is 150 Royall Street, Canton, Massachusetts 02021, and its telephone number is (800) 736-3001.

LEGAL MATTERS

The validity of the shares of common stock being offered hereby will be passed upon for us by Sidley Austin LLP, San Francisco, California. Partners of Sidley Austin LLP own less than 1% of our outstanding common stock.

EXPERTS

The financial statements of Biodesix, Inc. as of December 31, 2025 and 2024, and for the years then ended, have been incorporated by reference herein 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.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act, with respect to the securities offered by this prospectus and any applicable prospectus supplement. This prospectus and any applicable prospectus supplement do not contain all of the information set forth in the registration statement and its exhibits and schedules in accordance with SEC rules and regulations. For further information with respect to our Company and the securities being offered by this prospectus and any applicable prospectus supplement, we refer you to the registration statement, including its exhibits and schedules. Statements contained in this prospectus and any applicable prospectus supplement, including documents that we have incorporated by reference, as to the contents of any contract or other document referred to are not necessarily complete, and, with respect to any contract or other document filed as an exhibit to the registration statement or any other such document, each such statement is qualified in all respects by reference to the corresponding exhibit. You should review the complete contract or other document to evaluate these statements. You may obtain copies of the registration statement and its exhibits via the SEC's website at <http://www.sec.gov>.

We file annual, quarterly and current reports, proxy statements and other documents 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 <http://www.sec.gov>. We also make these documents available on our website at www.biodesix.com. Our website and the information contained or accessible through our website is not incorporated by reference in this prospectus or any prospectus supplement, and you should not consider it part of this prospectus or any prospectus supplement.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

SEC rules permit us to incorporate information by reference in this prospectus. This means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be part of this prospectus, except for information superseded by information contained in this prospectus itself or in any subsequently filed incorporated document. This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC. These documents contain important information about us and our business and financial condition.

- Annual Report on [Form 10-K](#) for the year ended December 31, 2025, filed with the SEC on February 26, 2026;
- Quarterly Report on [Form 10-Q](#) for the period ended March 31, 2026, filed with the SEC on May 4, 2026;
- Current Reports on Form 8-K, filed with the SEC on [January 12, 2026](#) and [May 20, 2026](#);
- the information specifically incorporated by reference into our Annual Report on Form 10-K from our Definitive Proxy Statement on Schedule 14A, filed with the SEC on [April 9, 2026](#); and
- The description of our common stock contained in our Registration Statement on [Form 8-A](#), dated October 26, 2020.

All documents that we file (but not those that we furnish) pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, after the date of the initial registration statement of which this prospectus is a part and prior to the effectiveness of the registration statement shall be deemed to be incorporated by reference into this prospectus and will automatically update and supersede the information in this prospectus, and any previously filed documents. All documents that we file (but not those that we furnish) pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act on or after the date of this prospectus and prior to the termination of the offering of any of the securities covered under this prospectus shall be deemed to be incorporated by reference into this prospectus and will automatically update and supersede the information in this prospectus and any previously filed documents.

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Any statement contained herein or in a document incorporated or deemed to be incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, or in any other subsequently filed document which also is or is deemed to be incorporated by reference in this prospectus, modifies or supersedes such earlier statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

You can obtain any of the filings incorporated by reference into this prospectus through us or from the SEC through the SEC's website at <http://www.sec.gov>. Upon request, we will provide, without charge, a copy of any or all of the reports and documents referred to above which have been incorporated by reference into this prospectus. Prospective investors may obtain documents incorporated by reference in this prospectus by requesting them in writing or by telephone from us at our executive offices at:

Biodesix, Inc.
919 West Dillon Road
Louisville, Colorado 80027
(303) 417-0500

Our reports and documents incorporated by reference herein may also be found in the "Investor Relations" section of our website at www.biodesix.com. The content of our website and any information that is linked to or accessible from our website (other than our filings with the SEC that are incorporated by reference, as set forth under "Incorporation of Certain Information by Reference" is not incorporated by reference into this prospectus and you should not consider it a part of this prospectus.



Up to 375,000 Shares of Common Stock

PROSPECTUS

May 29, 2026
