

BioSig Technologies, Inc.

Up to \$8,500,000 of Common Stock

We have entered into an At The Market Offering Agreement, dated December 18, 2024 (the "Sales Agreement"), with H.C. Wainwright & Co., LLC, as sales agent or principal ("Wainwright" or the "sales agent") relating to the sale of shares of our common stock, par value \$0.001 per share ("common stock"), offered by this prospectus supplement and the accompanying prospectus. In accordance with the terms of the Sales Agreement and this prospectus supplement and the accompanying prospectus, we may from time to time offer and sell shares of our common stock having a maximum aggregate offering price of up to \$8,500,000 through or to Wainwright as our sales agent or principal, as applicable, under this prospectus supplement and the accompanying prospectus.

Sales of the shares of common stock, if any, under this prospectus supplement and the accompanying prospectus may be made by means of transactions that are deemed to be "at-the-market" offerings, as defined in Rule 415 under the Securities Act of 1933, as amended (the "Securities Act"), including, without limitation, sales made directly on or through the Nasdaq Stock Market ("Nasdaq"), the trading market for our common stock, or any other existing trading market in the United States for our common stock, sales made to or through a market maker other than on an exchange or otherwise, directly to Wainwright as principal, in negotiated transactions at market prices prevailing at the time of sale or at prices related to such prevailing market prices and/or in any other method permitted by law. If we and Wainwright agree on any method of distribution other than sales of shares of our common stock on or through Nasdaq or another existing trading market in the United States at market prices, we will file a further prospectus supplement providing all information about such offering as required by Rule 424(b) under the Securities Act. Wainwright is not required to sell any specific number or dollar amount of shares of our common stock, but will act as a sales agent and use commercially reasonable efforts to sell on our behalf all of the shares of common stock requested to be sold by us, consistent with its normal trading and sales practices, on mutually agreed terms between Wainwright and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement. We provide more information about how the shares of common stock will be sold in the section entitled "Plan of Distribution."

The sales agent will receive from us a cash commission of 3.0% based on the gross sales price per share for any shares sold through the sales agent under the Sales Agreement. See "Plan of Distribution" beginning on page S-12 for additional information regarding the compensation to be paid to Wainwright. Under the terms of the Sales Agreement, we also may sell shares of our common stock to the sales agent as principal for its own account at a price agreed upon at the time of sale. If we sell shares to the sales agent as principal, we will enter into a separate terms agreement with the sales agent and we will describe the agreement in a separate prospectus supplement or pricing supplement providing all information about such offering as required by Rule 424(b) under the Securities Act.

In connection with the sale of shares of our common stock on our behalf, the sales agent will be deemed to be an "underwriter" within the meaning of the Securities Act, and the compensation paid to the sales agent will be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to the sales agent against certain liabilities, including civil liabilities under the Securities Act. This offering pursuant to this prospectus supplement and the accompanying prospectus will terminate upon the termination by us or Wainwright of the Sales Agreement pursuant to its terms.

Our common stock is listed on The Nasdaq Capital Market under the symbol "BSGM." On December 17, 2024, the last reported sale price of our common stock on The Nasdaq Capital Market was \$1.33 per share.

As of the date of this prospectus supplement, the aggregate market value of our outstanding common stock held by non-affiliates ("public float") was approximately \$34.73 million based on 15,572,226 shares of outstanding common stock held by non-affiliates, at a price of \$2.23 per share on November 11, 2024, which was the highest closing sale price of our common stock on The Nasdaq Capital Market within 60 days of the filing date of this prospectus supplement. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities registered on the registration statement, of which this prospectus supplement is a part, in a public primary offering with a value exceeding one-third of our public float in any 12-month period so long as our public float remains below \$75.0 million. We have not offered or sold any securities pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to and including the date of this prospectus supplement (excluding this offering).

Investing in our securities involves a high degree of risk. Before buying any securities, you should review carefully the risks and uncertainties described under the heading "Risk Factors" beginning on page S-5 of this prospectus supplement, on page 5 of the accompanying prospectus and in the documents incorporated by reference into this prospectus supplement and the accompanying prospectus.

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

H.C. Wainwright & Co.

The date of this prospectus supplement is December 18, 2024.

TABLE OF CONTENTS

PROSPECTUS SUPPLEMENT

	Page
ABOUT THIS PROSPECTUS SUPPLEMENT	S-1
CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS	S-2
PROSPECTUS SUPPLEMENT SUMMARY	S-3
THE OFFEDING	S_1

RISK FACTORS	S-5
<u>DILUTION</u>	S-10
DIVIDEND POLICY	S-11
USE OF PROCEEDS	S-11
PLAN OF DISTRIBUTION	S-12
<u>LEGAL MATTERS</u>	S-13
EXPERTS	S-13
WHERE YOU CAN FIND ADDITIONAL INFORMATION	S-13
INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE	S-13

PROSPECTUS

Page
ii
1
2
5
6
7
10
12
13
15
15
15
15

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus are part of a registration statement on Form S-3 (File No. 333-276298) that we filed with the U.S. Securities and Exchange Commission (the "SEC") under the Securities Act, utilizing a "shelf" registration process. This prospectus supplement and the accompanying prospectus relate to the offer by us of shares of our common stock to certain investors. Under the shelf registration process, we may offer and sell shares of our common stock having a maximum aggregate offering price of up to \$8,500,000 from time to time under this prospectus supplement and the accompanying prospectus at prices and on terms to be determined by market conditions at the time of the offering.

We provide information to you about this offering of shares of our common stock in two separate documents that are bound together: (1) this prospectus supplement, which describes the specific details regarding this offering, and (2) the accompanying prospectus, which provides general information, some of which may not apply to this offering. Generally, when we refer to this "prospectus," we are referring to both documents combined. If information in this prospectus supplement is inconsistent with the accompanying prospectus, you should rely on this prospectus supplement. In addition, to the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in any document incorporated by reference that was filed with the SEC before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date - for example, a document incorporated by reference in this prospectus supplement - the statement in the document having the later date modifies or supersedes the earlier statement.

This prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein, describe the specific terms of this offering. We urge you to carefully read this prospectus supplement and the accompanying prospectus, and the documents incorporated by reference herein and therein, before buying any of the securities being offered under this prospectus supplement. This prospectus supplement may add to or update information contained in the accompanying prospectus and the documents incorporated by reference therein. To the extent that any statement we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference therein that were filed before the date of this prospectus supplement, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference therein.

You should rely only on the information contained in this prospectus supplement and the accompanying prospectus or incorporated by reference herein or therein or in any free writing prospectuses prepared by or on behalf of us or to which we have referred you.

We have not, and the sales agent has not, authorized anyone to provide any information or to make any representations other than those contained in this prospectus supplement, the accompanying prospectus or in any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We and the sales agent take no responsibility for and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus supplement is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein or in any applicable free writing prospectus is current only as of its date, regardless of its time of delivery or any sale of our securities. Our business, financial condition, results of operations and prospects may have changed since that date. You should read this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the sections of this prospectus supplement entitled "Where You Can Find Additional Information" and "Incorporation of Certain Documents by Reference." These documents contain important information that you should consider when making your investment decision

For investors outside of the United States: we have not, and the sales agent has not, done anything that would permit this offering or possession or distribution of this prospectus supplement, the accompanying prospectus or any free writing prospectuses in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside of the United States who come into possession of this prospectus supplement, the accompanying prospectus or any free writing prospectuses must inform themselves about, and observe any restrictions relating to, the offering of our securities and the distribution of this prospectus supplement, the accompanying prospectus or any free writing prospectuses outside of the United States.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in this prospectus supplement and the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

In addition, this prospectus supplement and the accompanying prospectus contain summaries of certain provisions contained in some of the documents described herein or therein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein and therein have been filed or incorporated by reference as exhibits to the registration statement of which this prospectus supplement and accompanying prospectus is a part, and you may obtain copies of those documents as described below under the heading "Where You Can Find Additional Information."

You should assume that the information in this prospectus supplement and the accompanying prospectus is accurate only as of the date on the front of the applicable document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the date of delivery of this prospectus supplement or the accompanying prospectus, or the date of any sale of a security.

Unless otherwise mentioned or unless the context requires otherwise, all references in this prospectus supplement to "BioSig," the "Company," "we," "us," "our," or similar terms refer to BioSig Technologies, Inc. and its subsidiaries taken as a whole, except where the context otherwise requires or as otherwise indicated.

S-1

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the accompanying prospectus and the information incorporated by reference in this prospectus supplement and the accompanying prospectus contain forward-looking statements 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"). Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These statements are often, but are not always, made through the use of words or phrases such as "anticipate," "believe," "contemplate," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "seek," "should," "target," "will," and "would," or the negative of these terms, or similar expressions. Such forward-looking statements are subject to certain risks, uncertainties and assumptions relating to factors that could cause actual results to differ materially from those anticipated in such statements, including, without limitation, the following:

- our history of recurring losses and negative cash flows from operating activities and the uncertainty regarding the adequacy of our liquidity to pursue or complete our business objectives, and substantial doubt regarding our ability to continue as a going concern;
- our ability to maintain the listing of our common stock on The Nasdaq Capital Market;
- the results of ongoing and future clinical studies;
- our inability to successfully develop or commercialize our product candidates;
- market acceptance of existing and new products;
- our inability to carry out research, development and commercialization plans;
- delays in any phase of the preclinical or clinical development of a product, including during its research and development;
- our inability to complete preclinical testing and clinical trials as anticipated;
- · changes in our relationship with key collaborators;
- our ability to adequately protect and enforce rights to intellectual property;
- our need to raise additional capital to meet our business requirements in the future and the difficulties in obtaining financing on commercially reasonable terms, or at all;
- intense competition in our industry, with competitors having substantially greater financial, technological, research and development, regulatory and clinical, manufacturing, marketing and sales, distribution and personnel resources than we do;
- our inability to manufacture our PURE EP product on a commercial scale on our own or in collaborations with third parties;
- entry of new competitors and products and potential technological obsolescence of our products;
- effect of healthcare legislation or reform measures that may substantially change the market for medical care or healthcare coverage in the U.S.;
- our failure to obtain regulatory approvals;
- · adverse market and economic conditions;
- loss of one or more key executives;
- difficulties in securing and retaining regulatory approval to market our product and product candidates; and
- depth of the trading market in our common stock.

You should review carefully the section entitled "Risk Factors" beginning on page S-5 of this prospectus supplement, on page 5 of the accompanying prospectus and in the documents incorporated by reference into this prospectus supplement and the accompanying prospectus for a discussion of these and other risks that relate to our business and investing in our securities. The forward-looking statements contained or incorporated by reference in this prospectus supplement are expressly qualified in their entirety by this cautionary statement. Except as required by applicable law, we do not undertake any obligation to publicly update any forward-looking statement contained in this prospectus supplement, the accompanying prospectus or the documents incorporated by reference herein or therein to reflect events or circumstances after the date on which any such statement is made or to reflect the occurrence of unanticipated events. For all forward-looking statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

S-2

PROSPECTUS SUPPLEMENT SUMMARY

The following summary highlights information contained elsewhere in this prospectus supplement and the accompanying prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our securities, you should read this entire prospectus supplement and the accompanying prospectus carefully, including the documents incorporated by reference herein and therein, including the section entitled "Risk Factors" included elsewhere in this prospectus supplement and the accompanying prospectus, the sections entitled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our audited financial statements and the related notes thereto, each included in our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on April 16, 2024, which is incorporated by reference herein, our most recent Quarterly Reports on Form 10-Q, and any

subsequent Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q or Current Reports on Form 8-K we file after the date of this prospectus supplement which are incorporated by reference herein. Some of the statements in this prospectus supplement, the accompanying prospectus and in the documents incorporated by reference herein and therein, constitute forward-looking statements. See "Cautionary Note Regarding Forward-Looking Statements."

Overview

BioSig Technologies, Inc. is a medical device company with an advanced digital signal processing technology platform to deliver insights to the treatment of cardiovascular arrhythmias. Through collaboration with physicians, experts, and healthcare leaders across the field of electrophysiology (EP), we are committed to addressing healthcare's biggest priorities — saving time, saving costs, and saving lives.

Our first product, the PURE EPTM System, is an FDA 510(k) cleared non-invasive class II device consisting of a unique combination of hardware and software designed to provide unprecedented signal clarity and precision for real-time visualization of intracardiac signals paving the way for personalized patient care. Integrating with existing systems in the EP lab, PURE EPTM is designed to accurately pinpoint even the most complex signals to maximize procedural success and efficiency.

By capturing critical cardiac signals—even the most complex, the PURE EPTM System is designed to enhance clinical decision-making and improve clinical workflow for all types of arrhythmias - even the most challenging procedures for cardiac arrhythmias, like ventricular tachycardia (VT) and atrial fibrillation (AF).

Our patent portfolio now includes 41 issued/allowed utility patents (29 utility patents where BioSig is at least one of the applicants). Twenty six additional U.S. and foreign utility patent applications are pending covering various aspects of our PURE EP System for recording, measuring, calculating and displaying of electrocardiograms during cardiac ablation procedures (26 U.S. and foreign utility patent applications where either BioSig or Mayo is at least one of the applicants or that are co-owned by both). We have one U.S. patent and two U.S. Pending applications directed to artificial intelligence (AI). We also have 30 issued worldwide design patents, which cover various features of our display screens and graphical user interface for enhanced visualization of biomedical signals (30 design patents where BioSig is at least one of the applicants). Finally, we have licenses to 11 (issued/allowed) patents and 8 additional worldwide utility patent applications from Mayo Foundation for Medical Education and Research that are pending (11 issued/allowed patents and 8 applications where only Mayo is the applicant). These patents and applications are generally directed to electroporation and stimulation.

Implications of Being a Smaller Reporting Company

We are also a "smaller reporting company," meaning that the market value of our stock held by non-affiliates is less than \$700 million and our annual revenue was less than \$100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company if either (i) the market value of our stock held by non-affiliates is less than \$250 million or (ii) our annual revenue was less than \$100 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates was less than \$700 million. For so long as we remain a smaller reporting company, we are permitted and intend to rely on exemptions from certain disclosure. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests.

Corporate Information

We were formed as BioSig Technologies, Inc., a Nevada corporation, in February 2009. In April 2011, we merged with our wholly-owned subsidiary, BioSig Technologies, Inc., a Delaware corporation, with the Delaware corporation continuing as the surviving entity. Our principal executive offices are located at 12424 Wilshire Blvd., Suite 745, Los Angeles, CA 90025, and our telephone number is (203) 409-5444. Our website address is www.biosig.com. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports, are available to you free of charge through the "Investors" section of our website as soon as reasonably practicable after such materials have been electronically filed with, or furnished to, the SEC. Information contained on our website is not incorporated by reference into and does not form a part of this prospectus supplement or the accompanying prospectus. You should not rely on any such information in making your decision whether to purchase our securities.

S-3

THE OFFERING

Common stock offered by us

Shares of common stock having an aggregate offering price of up to \$8,500,000.

Common stock outstanding immediately following the offering

23,625,906 shares, assuming sales of 6,390,977 shares in this offering at an assumed offering price of \$1.33 per share, which was the last reported sale price of our common stock on The Nasdaq Capital Market on December 17, 2024. The actual number of shares issued will vary depending on how many shares of our common stock we choose to sell, if any, from time to time and the prices at which such sales occur.

Plan of distribution

Sales of our common stock, if any, under this prospectus supplement and the accompanying prospectus may be made by any method permitted by law deemed to be an "at-the-market" offering as defined in Rule 415 of the Securities Act, including, without limitation, sales made directly on or through Nasdaq, on any other existing trading market for the common stock in the United States, sales made to or through a market maker other than on an exchange or otherwise, directly to Wainwright as principal in negotiated transactions, at market prices prevailing at the time of sale or at prices related to such prevailing market prices, and/or in any other method permitted by law. The sales agent is not required to sell any certain number of shares or dollar amount of our common stock but will act as a sales agent and use commercially reasonable efforts to sell on our behalf all of the shares of common stock requested to be sold by us, consistent with its normal trading and sales practices and applicable laws and regulations, subject to the terms of the Sales Agreement. We may sell shares of our common stock, if any, to Wainwright as principal for its own account, at a price per share agreed upon at the time of sale. If we sell shares to Wainwright as principal, we will enter into a separate terms agreement setting forth the terms of such transaction, and we will describe the agreement in a separate prospectus or pricing supplement. See "Plan of Distribution" on page S-12 of this prospectus supplement.

Use of proceeds

We intend to use the net proceeds from this offering for working capital and general corporate purposes. See "Use of Proceeds" on page S-11 in this prospectus supplement.

Nasdaq Capital Market symbol

BSGM

Risk factors

Investing in our securities involves significant risks. See "Risk Factors," beginning on page S-5 in this prospectus supplement, on page 5 of the accompanying prospectus, as well as the other information included in or incorporated by reference in this prospectus supplement and the accompanying prospectus, for a discussion of risks you should carefully consider before investing in our securities.

The number of shares of our common stock to be outstanding immediately after this offering as shown above is based on 17,234,929 shares of common stock outstanding as

of December 17, 2024 and excludes as of such date:

- 4,899,716 shares of common stock issuable upon exercise of warrants outstanding, with a weighted average exercise price of \$4.88 per share;
- 2,515,201 shares of common stock issuable upon exercise of options outstanding at a weighted average exercise price of \$0.96 per share;
- 1,640,000 shares of common stock subject to restricted stock units;
- 15,718 shares of common stock reserved and available for future issuance under our 2023 Long-Term Incentive Plan (the "2023 Plan"); and
- 409,462 shares of common stock issuable upon conversion of outstanding Series C 9% Preferred Stock (the "Series C Preferred Stock") at the conversion price of \$0.3197 per share and the stated value per share of \$1,000 (which includes the payment of dividends accrued on the Series C Preferred Stock in an aggregate of 81,029 shares of common stock as of December 17, 2024 at a conversion rate of \$1.3727).

Except as otherwise indicated, all information in this prospectus supplement assumes no exercise or conversion, as applicable, of the outstanding securities described above.

S-4

RISK FACTORS

An investment in our securities involves a high degree of risk. Prior to making a decision about investing in our securities, you should carefully consider the following risks and uncertainties, as well as those discussed under the caption "Risk Factors" in the accompanying prospectus and in the documents incorporated by reference herein and therein. If any of the risks described in this prospectus supplement, the accompanying prospectus or the documents incorporated by reference herein and therein, actually occur, our business, prospects, financial condition or operating results could be harmed. In that case, the trading price of our securities could decline, and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently believe are immaterial may also impair our business operations and our liquidity. You should also refer to the other information contained in this prospectus supplement and the accompanying prospectus, or incorporated by reference herein and therein, including our financial statements and the related notes thereto and the information set forth under the heading "Cautionary Note Regarding Forward-Looking Statements."

Risks Related to Our Business and Industry

Regulations are constantly changing, and in the future our business may be subject to additional regulations that increase our compliance costs.

We believe we understand the current laws and regulations to which our products and product candidates are and will be subject. However, federal, state and foreign laws and regulations relating to the sale of our products are subject to future changes, as are administrative interpretations of laws and regulations. If we fail to comply with such federal, state or foreign laws or regulations, we may fail to obtain regulatory approval for our products and, if we have already obtained regulatory approval, we could be subject to enforcement actions, including injunctions preventing us from conducting our business, withdrawal of clearances or approvals and civil and criminal penalties. In the event that federal, state, and foreign laws and regulations change, we may incur additional costs to seek government approvals, in addition to the clearance from the FDA in order to sell or market our products. If we are slow or unable to adapt to changes in existing regulatory requirements or the promulgation of new regulatory requirements or policies, we or our licensees may, following approval, lose marketing approval for our products which will impact our ability to conduct business in the future.

Notably, AI is an area of rapid technological development and regulatory focus. The FDA is expected to release new guidance documents on topics including medical device software functions and AI-enabled device software functions, which may require significant investments of capital, time, and labor to ensure our product candidate development and product commercialization complies with FDA regulations and guidance. Additionally, FDA's upcoming actions regarding regulations, guidance, and enforcement are particularly unpredictable, as the agency prepares for a change of presidential administration, which is expected to bring significant changes to FDA leadership and policy initiatives.

Risks Related to this Offering and Our Common Stock

SEC regulations may limit the number of shares we may sell under this prospectus supplement.

Under current SEC regulations, because our public float is currently less than \$75 million, and for so long as our public float remains less than \$75 million, the amount we can raise through primary public offerings of securities in any twelve-month period using shelf registration statements, including sales under this prospectus, is limited to an aggregate of one-third of our public float, which is referred to as the baby shelf rules. As of December 17, 2024, our public float was approximately \$34.73 million based on 15,572,226 shares of outstanding common stock held by non-affiliates, at a price of \$2.23 per share on November 11, 2024, which was the highest closing sale price of our common stock on The Nasdaq Capital Market within 60 days of the filing date of this prospectus supplement. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities registered on the registration statement, of which this prospectus supplement is a part, in a public primary offering with a value exceeding one-third of our public float in any 12-month period so long as our public float remains below \$75.0 million. We have not offered or sold any securities pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to and including the date of this prospectus supplement (excluding this offering). If our public float decreases, the amount of securities we may sell under our Form S-3 shelf registration statement, including this prospectus supplement, will also decrease.

You may experience immediate and substantial dilution as a result of this offering.

The offering price per share of our common stock in this offering may exceed the net tangible book value per share of our common stock outstanding prior to this offering. Assuming that an aggregate of 6,390,977 shares of our common stock are sold in this offering, based on an assumed sale price of \$1.33 per share, the last reported sale price of our common stock on the Nasdaq Capital Market on December 17, 2024, for aggregate gross proceeds of \$8.5 million, and, after deducting commissions and estimated offering expenses payable by us, you will experience immediate dilution of \$1.014 per share, representing the difference between the price you pay per share and our as adjusted net tangible book value per share as of September 30, 2024, after giving effect to this offering, at the assumed public offering price. The issuance of shares of our common stock in common tink the vesting of restricted stock units or the exercise of any options or warrants or if we otherwise issue additional shares of our common stock in the future, may result in further dilution of your investment. See the section titled "Dilution" below for a more detailed illustration of the dilution you may incur if you participate in this offering.

Management will have broad discretion as to the use of the net proceeds from this offering, and we may not use the proceeds effectively.

We intend to use the net proceeds of this offering, if any, for working capital and general corporate purposes. Our management will have broad discretion in the application of the net proceeds from this offering, if any, and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. You will be relying on the judgment of our management concerning these uses and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. The failure of our management to apply these funds effectively could result in unfavorable returns and uncertainty about our prospects, each of which could cause the price of our common stock to decline.

The common stock offered hereby will be sold in "at-the-market" offerings, and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares under this offering at different times will likely pay different prices, and so may experience different outcomes in their investment results. We

The actual number of shares we will issue under the Sales Agreement and the gross proceeds resulting from those sales, at any one time or in total, is uncertain.

Subject to certain limitations in the Sales Agreement and compliance with applicable law, we have the discretion to deliver a sales notice to Wainwright at any time throughout the term of the Sales Agreement. The number of shares that are sold by Wainwright after delivering a sales notice will fluctuate based on the market price of the common stock during the sales period and limits we set with Wainwright, and the demand for our common stock during the sales period. Because the price per share of each share sold will fluctuate based on the market price of our common stock during the sales period, it is not possible at this stage to predict the number of shares that will be ultimately issued by us under the Sales Agreement, if any, or the gross proceeds to be raised in connection with those sales.

The market price of our common stock may be adversely affected by the future issuance and sale of additional shares of our common stock, including pursuant to the Sales Agreement, or by our announcement that such issuances and sales may occur.

As of December 17, 2024, there were 17,234,929 shares of our common stock outstanding. All of our issued and outstanding shares may be sold in the market, including any shares of common stock issued pursuant to the Sales Agreement, and will be freely tradeable, except for any shares held by our "affiliates," as that term is defined in Rule 144 under the Securities Act. We cannot predict the size of future issuances or sales of shares of our common stock, including those made pursuant to the Sales Agreement with the sales agent or in connection with future acquisitions or capital raising activities, or the effect, if any, that such issuances or sales may have on the market price of our common stock. The issuances and sale of substantial amounts of shares of our common stock, including issuances and sales pursuant to the Sales Agreement, or announcement that such issuances and sales may occur, could adversely affect the market price of our common stock. If there are more shares of common stock offered for sale than buyers are willing to purchase, then the market price of our common stock may decline to a market price at which buyers are willing to purchase the offered shares of common stock and sellers remain willing to sell the shares.

In addition, sales of stock by any of our executive officers or directors could have a material adverse effect on the trading price of our common stock.

Our failure to meet the continued listing requirements of The Nasdaq Capital Market could result in a delisting of our common stock, which could negatively impact the market price and liquidity of our common stock and our ability to access the capital markets.

Our common stock is listed on The Nasdaq Capital Market. If we fail to satisfy the continued listing requirements of The Nasdaq Capital Market, such as minimum bid price, shareholders' equity, public float and other requirements, The Nasdaq Capital Market may take steps to delist our common stock. Such a delisting would have a negative effect on the price of our common stock, impair the ability to sell or purchase our common stock when persons wish to do so, and any delisting may materially adversely affect our ability to raise capital or pursue strategic restructuring, refinancing or other transactions on acceptable terms, or at all. Delisting from The Nasdaq Capital Market could also have other negative results, including the potential loss of institutional investor interest and fewer business development opportunities. In the event of a delisting, we would attempt to take actions to restore our compliance with The Nasdaq Capital Market's listing requirements, but we can provide no assurance that any such action taken by us would allow our common stock to become listed again, stabilize the market price or improve the liquidity of our common stock, prevent our common stock from dropping below The Nasdaq Capital Market's minimum bid price requirement or prevent future non-compliance with The Nasdaq Capital Market's listing requirements.

On March 5, 2024, we received a letter from the Listing Qualifications Department of Nasdaq (the "Staff") stating that the Company had not regained compliance with Nasdaq Listing Rule 5550(a)(2) because the Company's common stock did not meet the minimum bid price of \$1.00 per share required for continued listing on The Nasdaq Capital Market, and the Company was not eligible for a second 180 day cure period under Rule 5810(c)(3)(A)(2) because the Company did not comply with the \$5,000,000 minimum stockholders' equity initial listing requirement for The Nasdaq Capital Market, and that accordingly, The Nasdaq Capital Market would delist the Company's common stock unless the Company requested an appeal of this determination. On March 11, 2024, the Company submitted a request for a hearing before the Nasdaq Hearings Panel (the "Panel") to appeal the Staff's delisting determination.

S-6

On March 12, 2024, we received a letter from the Staff stating that based upon the Staff's review of the Company and pursuant to Nasdaq Listing Rule 5101, the Staff determined that the Company no longer had an operating business and was a "public shell," and that the continued listing of its securities was no longer warranted, in view of work force reductions and resignations of members of the board of directors and officers. The letter further stated that the Company no longer met the requirements of Nasdaq Listing Rule 5550(b)(2) to maintain the minimum market value of listed securities requirement of \$35 million, if none of the other standards set forth in Nasdaq Listing Rule 5550(b) were met.

The Staff stated that the foregoing matters serve as an additional basis for delisting the Company's common stock from The Nasdaq Capital Market, and that the Panel would consider this matter in rendering a determination regarding the Company's continued listing on The Nasdaq Capital Market.

We appealed the foregoing determinations. The requested hearing before the Panel was held on May 7, 2024.

On May 6, 2024, the Company received a letter from the Staff stating that the Company had regained compliance with the minimum bid price requirements in Nasdaq Listing Rule 5550(a)(2) because the bid price of the common stock closed at or above \$1.00 per share for a period of 20 consecutive business days, from April 8, 2024, to May 3, 2024.

On May 28, 2024, the Company was notified by the Staff that the Panel determined that the Company is not a public shell and granted the Company's request for continued listing subject to certain conditions.

On June 10, 2024, we received formal notice that the Panel had determined to delist the Company's common stock from The Nasdaq Capital Market due to the Company's continued non-compliance with the minimum stockholders' equity requirement set forth in Nasdaq Listing Rule 5550(b)(2) for continued listing on The Nasdaq Capital Market. As a result, trading in the Company's common stock was suspended on The Nasdaq Capital Market effective with the open of business on Wednesday, June 12, 2024 and commenced trading on the OTC Markets' Pink Current Information tier under symbol "BSGM." The Company sought the Panel's reconsideration of its decision in accordance with the Nasdaq Listing Rules.

On June 24, 2024, we were notified by the Staff that the Panel had declined to reconsider its decision dated June 10, 2024 to delist the Company's common stock from The Nasdaq Capital Market. In accordance with the Nasdaq Listing Rules, on June 25, 2024, the Company appealed the Panel's June 10, 2024 determination to the Nasdaq Listing and Hearing Review Council in an effort to maintain the Company's listing on The Nasdaq Capital Market.

On July 10, 2024, we filed a submission in support of an appeal to the Nasdaq Listing and Hearing Review Council of the decision of the Panel on June 10, 2024.

On July 23, 2024, our common stock commenced trading on the OTCQB, operated by OTC Markets Group, Inc., under the symbol "BSGM."

On October 18, 2024, we received a decision from the Nasdaq Listing and Hearing Review Council, which granted the Company a grace period until March 7, 2025, to regain compliance with the Nasdaq Listing Rule 5550(b)(2), which requires a market value of listed securities of at least \$35 million.

On October 23, 2024, our common stock commenced trading on The Nasdaq Capital Market.

On October 24, 2024, we received a letter from the Staff notifying the Company that based upon the closing bid price of the Company's common stock from the period of June 11, 2024 through the reinstatement date, October 23, 2024, the Company did not meet the minimum bid price of \$1.00 per share required by the Nasdaq Listing Rules and as a result, the Company no longer met this requirement. However, the Nasdaq Listing Rules also provided the Company a compliance period of 180 calendar days in which to regain compliance.

On November 13, 2024, the Staff determined that for the 10 consecutive business days, from October 30, 2024, to November 12, 2024, the closing bid price of the Company's common stock had been at \$1.00 per share or greater. Accordingly, the Company has regained compliance with Nasdaq Listing Rule 5550(a)(2) and this matter is now closed.

S-7

If we fail to satisfy the continued listing requirements of Nasdaq, Nasdaq may again take steps to delist our securities. Such a delisting would likely have a negative effect on the price and liquidity of our common stock and would impair your ability to sell our common stock purchased in this offering when you wish to do so. In the event of a delisting, we would again take actions to restore our compliance with Nasdaq's listing requirements, but we can provide no assurance that any such action taken by us would allow our common stock to become listed again, stabilize the market price or improve the liquidity of our securities, prevent our common stock from dropping below the Nasdaq minimum share price requirement or prevent future non-compliance with Nasdaq's listing requirements.

If our common stock were to be delisted from Nasdaq, our common stock could again begin to trade on one of the markets operated by OTC Markets Group, including OTCQX, OTCQB or OTC Pink (formerly known as the "pink sheets"), as the case may be. In such event, our common stock could be subject to the "penny stock" rules which, among other things, require brokers or dealers to approve investors' accounts, receive written agreements and determine investor suitability for transactions and disclose risks relating to investing in the penny stock market. Any such delisting of our common stock could have an adverse effect on the market price of, and the efficiency of the trading market for, our common stock, not only in terms of the number of shares that can be bought and sold at a given price, but also through delays in the timing of transactions and less coverage of us by securities analysts, if any. Also, if in the future we were to determine that we need to seek additional equity capital, it could have an adverse effect on our ability to raise capital in the public or private equity markets. In addition, there can be no assurance that our common stock would be eligible for trading on any such alternative exchange or markets.

Delisting from Nasdaq could adversely affect our ability to raise additional financing through public or private sales of equity securities, would significantly affect the ability of investors to trade our securities and would negatively affect the value and liquidity of our common stock. Delisting could also have other negative results, including the potential loss of confidence by employees, the loss of institutional investor interest and fewer business development opportunities.

Future issuances of our common stock or instruments convertible or exercisable into our common stock may materially and adversely affect the price of our common stock and cause dilution to our existing stockholders.

Historically, we have raised capital by issuing common stock and warrants in underwritten public offerings and private placements because no other reasonable sources of capital were available. These offerings of common stock and warrants have materially and adversely affected the prevailing market prices of our common stock and caused significant dilution to our stockholders. We have also historically raised capital or refinanced outstanding debt through the issuance of convertible notes.

We may need to raise capital through these offerings of common stock, preferred stock, warrants and convertible debt in the future. We may obtain additional funds through public or private debt or equity financings, subject to certain limitations in the agreements governing our indebtedness outstanding at such time. If we issue additional shares of common stock or instruments convertible into common stock, it may materially and adversely affect the price of our common stock. In addition, the conversion or exercise, as applicable, of some or all of our convertible notes or warrants may dilute the ownership interests of our stockholders, and any sales in the public market of any of our common stock issuable upon such conversion or exercise could adversely affect prevailing market prices of our common stock.

S-8

Our stock price is and may continue to be volatile and your investment in our securities could suffer a decline in value.

The market price of shares of our common stock has experienced significant price and volume fluctuations. We cannot predict whether the price of our common stock will rise or fall. The market price of our common stock may be highly volatile and could fluctuate widely in price in response to various factors, many of which are beyond our control, including the following:

- we may not be able to compete successfully against current and future competitors;
- competitive pricing pressures;
- additions or departures of key personnel;
- additional sales of our common stock and other securities;
- our ability to execute our business plan;
- operating results that fall below expectations;
- loss of any strategic relationship;
- continued access to working capital funds;
- economic and other external factors; and
- the threat of terrorism, geopolitical tensions, and general disruptions in the global economy.

In addition, the securities markets have from time to time experienced significant price and volume fluctuations that are unrelated to the operating performance of particular companies. These market fluctuations may also materially and adversely affect the market price of our common stock. As a result, you may be unable to resell your shares at a desired price.

Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our technologies.

We may seek additional capital through a combination of public and private equity offerings, debt financings, strategic partnerships and licensing arrangements. To the extent that we raise additional capital through the sale or issuance of equity, warrants or convertible debt securities, the ownership interest of our existing stockholders will be diluted, and the terms of such securities may include liquidation or other preferences that adversely affect your rights as a stockholder. If we raise capital through debt financing, it may involve agreements that include covenants further limiting or restricting our ability to take certain actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through strategic partnerships or licensing agreements with third parties, we may have to relinquish valuable rights to our technologies or grant licenses on terms that are not favorable to us. If we are unable to raise additional funds when needed, we may be required to delay, limit, reduce or terminate our development and commercialization efforts.

DILUTION

If you invest in this offering, your ownership interest will be diluted to the extent of the difference between the public offering price per share and the as adjusted net tangible book value per share after giving effect to this offering.

We calculate net tangible book value per share by dividing the net tangible book value, which is the total tangible assets less total liabilities, by the number of outstanding shares of our common stock. Dilution represents the difference between the amount per share paid by purchasers of shares in this offering and the as adjusted net tangible book value per share of our common stock immediately after giving effect to this offering. Our net tangible book value as of September 30, 2024 was approximately \$(799,000), or \$(0.0481) per share of common stock.

After giving effect to the sale of 6,390,977 shares of our common stock pursuant to this prospectus supplement and the accompanying prospectus in the aggregate amount of approximately \$8,500,000 at an assumed offering price of \$1.33 per share, the last reported sale price of our common stock on The Nasdaq Capital Market on December 17, 2024, and after deducting commissions and estimated aggregate offering expenses payable by us, our as adjusted net tangible book value as of September 30, 2024 would have been approximately \$7,271,000, or \$0.3160 per share of common stock. This represents an immediate increase in net tangible book value of \$0.3641 per share to our existing stockholders and an immediate dilution of \$1.0140 per share to new investors in this offering.

The following table illustrates this dilution on a per share basis:

Assumed public offering price per share	\$	1.3300
Net tangible book value per share as of September 30, 2024	\$ (0.0481)	
Increase in net tangible book value per share attributable to this offering	\$ 0.3641	
As adjusted net tangible book value per share as of September 30, 2024, after giving effect to this offering	\$	0.3160
Dilution per share to new investors in this offering	\$	1.0140

The table above assumes for illustrative purposes that an aggregate of 6,390,977 shares of our common stock are sold at a price of \$1.33 per share, the last reported sale price of our common stock on The Nasdaq Capital Market on December 17, 2024, for aggregate gross proceeds of approximately \$8,500,000. The shares sold in this offering, if any, will be sold from time to time at various prices.

The above discussion and table are based on 16,617,096 shares of our common stock outstanding as of September 30, 2024, and excludes as of that date:

- 4,951,068 shares of common stock issuable upon exercise of warrants outstanding, with a weighted average exercise price of \$4.92 per share;
- 2,515,202 shares of common stock issuable upon exercise of options outstanding at a weighted average exercise price of \$0.96 per share;
- 1,965,000 shares of common stock subject to restricted stock units;
- 15,718 shares of common stock reserved and available for future issuance under the 2023 Plan; and
- 618,060 shares of common stock issuable upon conversion of outstanding Series C Preferred Stock at the conversion price of \$0.41 per share and the stated value per share of \$1,000 (which includes the payment of dividends accrued on the Series C Preferred Stock in an aggregate of 361,962 shares of common stock as of September 30, 2024 at a conversion rate of \$0.3015).

S-10

DIVIDEND POLICY

We have never paid cash dividends on our common stock and do not anticipate paying any cash dividends in the foreseeable future but intend to retain our capital resources for reinvestment in our business. Any future determination to declare dividends will be made at the discretion of our board of directors and will depend on our financial condition, operating results, capital requirements, general business conditions and other factors that our board of directors may deem relevant. Our ability to pay dividends is presently restricted pursuant to the terms of our Series C Preferred Stock.

USE OF PROCEEDS

We may issue and sell shares of our common stock having maximum aggregate sales proceeds of up to \$8,500,000 from time to time, before deducting sales agent commissions and expenses, under this prospectus supplement and the accompanying prospectus. The amount of proceeds from this offering, if any, will depend upon the number of shares of our common stock sold, if any, and the market price at which they are sold. There can be no assurance that we will be able to sell any shares under or fully utilize the Sales Agreement with the sales agent. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time.

We intend to use the net proceeds from this offering for working capital and general corporate purposes.

As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses of the proceeds, if any, from this offering. Accordingly, we will retain broad discretion over the use of such proceeds.

S-1

PLAN OF DISTRIBUTION

We entered into the Sales Agreement with Wainwright, on December 18, 2024, pursuant to which and this prospectus supplement and the accompanying prospectus, we may issue and sell from time to time shares of our common stock having an aggregate offering price of not more than \$8,500,000 through Wainwright as our sales agent. Sales of the common stock, if any, will be made by any method permitted by law deemed to be an "at-the-market offering" as defined in Rule 415 promulgated under the Securities Act, including sales made directly on The Nasdaq Capital Market, the trading market for our common stock, or any other existing trading market in the United States for our common stock, sales made to or through a market maker other than on an exchange, sales made in negotiated transactions, at market prices prevailing at the time of sale or at prices related to such prevailing market prices, and/or in any other method permitted by law. If we and Wainwright agree on any method of distribution other than sales of shares of our common stock on The Nasdaq Capital Market or another existing trading market in the United States at market prices, we will file a further prospectus supplement providing all information about such offering as required by Rule 424(b) under the Securities Act.

Wainwright will offer our common stock at prevailing market prices subject to the terms and conditions of the Sales Agreement as agreed upon by us and Wainwright. We will designate the number of shares which we desire to sell, the time period during which sales are requested to be made, any limitation on the number of shares that may be sold in one day and any minimum price below which sales may not be made. Subject to the terms and conditions of the Sales Agreement, Wainwright will use its commercially

reasonable efforts consistent with its normal trading and sales practices and applicable law and regulations to sell on our behalf all of the shares of common stock requested to be sold by us. We or Wainwright may suspend the offering of the common stock being made through Wainwright under the Sales Agreement upon proper notice to the other party and pursuant to the terms of the Sales Agreement.

Settlement for sales of common stock will occur on the first trading day, or such shorter settlement cycle as may be in effect under the Exchange Act from time to time, following the date on which any sales are made, or on some other date that is agreed upon by us and Wainwright in connection with a particular transaction, in return for payment of the net proceeds to us. Sales of our common stock as contemplated in this prospectus supplement will be settled through the facilities of The Depository Trust Company or by such other means as we and Wainwright may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

We will pay Wainwright a cash commission equal to 3.0% of the gross sales price of the shares sold by Wainwright under the Sales Agreement. Because there is no minimum offering amount required as a condition to this offering, the actual total offering amount, sales commissions and net proceeds to us, if any, are not determinable at this time. Pursuant to the terms of the Sales Agreement, we have agreed to reimburse Wainwright for the reasonable fees and expenses of its legal counsel incurred in connection with entering into the transactions contemplated by the Sales Agreement up to \$100,000. Additionally, pursuant to the terms of the Sales Agreement, we have also agreed to reimburse Wainwright up to (i) \$5,000 per due diligence update session conducted in connection with each such date we file our Annual Report on Form 10-K and (ii) \$2,500 per due diligence update session conducted in connection with each such date we file our Quarterly Reports on Form 10-Q. We estimate that the total expenses of the offering payable by us, excluding commissions and other fees payable to Wainwright under the Sales Agreement, will be approximately \$85,000, assuming we sell the entire amount offered pursuant to this prospectus supplement and the accompanying prospectus. We will disclose in our Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q, as applicable, the number of shares of our common stock sold through Wainwright under the Sales Agreement, the net proceeds to us and the compensation paid by us with respect to sales under the Sales Agreement during the relevant quarter.

In connection with the sales of common stock on our behalf, Wainwright will be deemed to be an "underwriter" within the meaning of the Securities Act, and the compensation paid to Wainwright will be deemed to be underwriting commissions or discounts. We have agreed in the Sales Agreement to provide indemnification and contribution to Wainwright against certain liabilities, including liabilities under the Securities Act.

The offering of our shares of common stock pursuant to this prospectus supplement will terminate upon the earlier of the (i) sale of all of our shares of common stock provided for in this prospectus supplement or (ii) termination of the Sales Agreement as permitted therein.

To the extent required by Regulation M, Wainwright will not engage in any market making activities involving our shares of common stock while the offering is ongoing under this prospectus supplement.

From time to time, Wainwright and its affiliates have and may provide in the future various advisory, investment and commercial banking and other services to us and our affiliates in the ordinary course of business, for which they have received and may continue to receive customary fees and commissions. In addition, in the ordinary course of its various business activities, Wainwright and its affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans) for their own account and for the accounts of their customers. Such investments and securities may involve securities and/or instruments of ours or our affiliates. Wainwright or its affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments. Wainwright acted as the placement agent in connection with our registered direct offering and concurrent private placement of warrants consummated in May 2024, and received compensation from us in connection therewith. Except as disclosed in this prospectus supplement, we have no present arrangements with Wainwright for any further services.

This summary of the material provisions of the Sales Agreement does not purport to be a complete statement of its terms and conditions. We will file a copy of the Sales Agreement with the SEC on a Current Report on Form 8-K within the time required by the Exchange Act.

This prospectus supplement in electronic format may be made available on a website maintained by Wainwright, and Wainwright may distribute this prospectus supplement electronically.

The transfer agent and registrar for our common stock is Securities Transfer Corporation. The transfer agent and registrar's address is 2901 N Dallas Parkway Suite 380 Plano, Texas 75093.

S-12

LEGAL MATTERS

The validity of the shares of common stock being offered by this prospectus supplement and the accompanying prospectus will be passed upon for us by Sichenzia Ross Ference Carmel LLP, New York, New York, New York, New York, New York is acting as counsel for Wainwright in connection with certain legal matters related to this offering.

EXPERTS

Marcum LLP, independent registered public accounting firm, has audited our financial statements as of December 31, 2023 and 2022 and for the years then ended included in our Annual Report on Form 10-K for the year ended December 31, 2023, as set forth in their report (the report on the financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern), which is incorporated by reference in this prospectus supplement and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Marcum LLP's report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the securities being offered hereby. This prospectus supplement and the accompanying prospectus, which constitutes a part of the registration statement, do not contain all of the information set forth in the registration statement or the exhibits and schedules filed therewith. For further information about us and the securities offered hereby, we refer you to the registration statement and the exhibits filed thereto. Statements contained in this prospectus supplement and the accompanying prospectus regarding the contents of any contract or any other document that is filed as an exhibit to the registration statement are not necessarily complete, and each such statement is qualified in all respects by reference to the full text of such contract or other document filed as an exhibit to the registration statement.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains an internet website atwww.sec.gov that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC, including us, which you may access free of charge. The information on the SEC's website is not part of this prospectus supplement or the accompanying prospectus, and any references to this website or any other website are inactive textual references only. You may also access our reports and proxy statements free of charge at our website, www.biosig.com. The information contained in, or that can be accessed through, our website is not part of this prospectus supplement or the accompanying prospectus. The prospectus supplement and the accompanying prospectus included in this filing are part of a registration statement filed by us with the SEC. The full registration statement can be obtained from the SEC, as indicated above, or from us.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" information that we file with the SEC, which means that we can disclose important information to you by referring you to

those other documents. The information incorporated by reference is an important part of this prospectus supplement and the accompanying prospectus, and information we file later with the SEC will automatically update and supersede this information. A Current Report (or portion thereof) furnished, but not filed, on Form 8-K shall not be incorporated by reference into this prospectus supplement and the accompanying prospectus. We incorporate by reference the documents listed below and any future filings we make with the SEC under Section 13(a), 13(c), 14, or 15(d) of the Exchange Act prior to the termination of any offering of securities made by this prospectus supplement and accompanying prospectus:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, filed with the SEC on April 16, 2024;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2024, June 30, 2024 and September 30, 2024 filed with the SEC on May 20, 2024, August 14, 2024 and November 14, 2024, respectively;
- our Current Reports on Form 8-K filed with the SEC on <u>January 8, 2024, January 12, 2024, January 31, 2024, February 1, 2024</u> (as amended by our Current Report on Form 8-K/A filed with the SEC on <u>February 2, 2024</u>), <u>February 21, 2024</u>, <u>February 28, 2024</u>, <u>March 11, 2024</u>, <u>March 12, 2024</u>, <u>March 18, 2024</u>, <u>May 2, 2024</u>, <u>May 3, 2024</u>, <u>May 7, 2024</u>, <u>May 7, 2024</u>, <u>May 7, 2024</u>, <u>May 21, 2024</u>, <u>May 28, 2024</u>, <u>May 30, 2024</u>, <u>June 10, 2024</u>, <u>June 11, 2024</u>, <u>June 26, 2024</u>, <u>July 24, 2024</u>, <u>September 13, 2024</u>, <u>October 22, 2024</u>, <u>October 29, 2024</u>, <u>November 13, 2024</u> and <u>December 6, 2024</u>; and
- the description of the Company's common stock and warrants contained in the <u>Form 8-A</u> filed with the SEC on September 17, 2018, as amended by <u>Exhibit 4.1</u> to our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, including any amendments thereto or reports filed for the purposes of updating this description.

We also incorporate by reference into this prospectus supplement additional documents that we may file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the completion or termination of the offering, but excluding any information deemed furnished and not filed with the SEC. Any statements contained in a previously filed document incorporated by reference into this prospectus supplement is deemed to be modified or superseded for purposes of this prospectus supplement to the extent that a statement contained in this prospectus supplement, or in a subsequently filed document also incorporated by reference herein, modifies or supersedes that statement.

We will furnish without charge to you, on written or oral request, a copy of any or all of such documents that has been incorporated herein by reference (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into the documents that this prospectus supplement and accompanying prospectus incorporate). Written or oral requests for copies should be directed to BioSig Technologies, Inc., Attn: Chief Executive Officer, 12424 Wilshire Blvd., Suite 745, Los Angeles, CA 90025, and our telephone number is (203) 409-5444. See the section of this prospectus supplement entitled "Where You Can Find Additional Information" for information concerning how to read and obtain copies of materials that we file with the SEC at the SEC's public offices.

Any statement contained in this prospectus supplement, or in a document all or a portion of which is incorporated by reference, shall be modified or superseded for purposes of this prospectus supplement to the extent that a statement contained in this prospectus supplement or any document incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not, except as so modified or superseded, constitute a part of this prospectus supplement and accompanying prospectus.

S-13

Prospectus



\$75,000,000 Common Stock Preferred Stock Warrants Units

We may offer and sell from time to time, in one or more series or issuances and on terms that we will determine at the time of the offering, any combination of the securities described in this prospectus, up to an aggregate amount of \$75,000,000.

We will provide specific terms of any offering in a supplement to this prospectus. Any prospectus supplement may also add, update, or change information contained in this prospectus. You should carefully read this prospectus and the applicable prospectus supplement as well as the documents incorporated or deemed to be incorporated by reference in this prospectus before you purchase any of the securities offered hereby.

These securities may be offered and sold in the same offering or in separate offerings; to or through underwriters, dealers, and agents; or directly to purchasers. The names of any underwriters, dealers, or agents involved in the sale of our securities, their compensation and any over-allotment options held by them will be described in the applicable prospectus supplement. See "Plan of Distribution."

Our common stock is listed on The Nasdaq Capital Market under the symbol "BSGM." On December 9, 2024, the last reported sale price of our common stock was \$1.10 per share as reported on The Nasdaq Capital Market. We recommend that you obtain current market quotations for our common stock prior to making an investment decision. We will provide information in any applicable prospectus supplement regarding any listing of securities other than shares of our common stock on any securities exchange. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell our common stock in a public primary offering with a value exceeding more than one-third of our public float in any 12-month period so long as our public float remains below \$75.0 million. The aggregate market value of our shares of common stock held by non-affiliates pursuant to General Instruction I.B.6 of Form S-3 is \$34.72 million, which was calculated based on 15,572,226 shares of common stock outstanding held by non-affiliates and at a price of \$2.23 per share, the closing price of our common stock on November 11, 2024, a date that is within 60 days of the filing date of this prospectus. We have not offered any securities pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to and including the date of this prospectus.

You should carefully read this prospectus, any prospectus supplement relating to any specific offering of securities, and all information incorporated by reference herein and therein.

Investing in our securities involves a high degree of risk. These risks are discussed in this prospectus under "Risk Factors" beginning on page 5 and in the

documents incorporated by reference in this prospectus.

Neither the Securities and Exchange Commission (the "SEC") 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 December 17, 2024

TABLE OF CONTENTS

	Page
About This Prospectus	ii
Cautionary Statement Regarding Forward-Looking Statements	1
Prospectus Summary	2
Risk Factors	5
Use of Proceeds	6
Description of Capital Stock	7
Description of Warrants	10
Description of Units	12
<u>Plan of Distribution</u>	13
<u>Legal Matters</u>	15
Experts	15
Where You Can Find More Information	15
Incorporation of Documents by Reference	15

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the SEC using a "shelf" registration process. Under this shelf process, we may, from time to time, sell any combination of the securities described in this prospectus in one or more offerings up to a total amount of \$75,000,000.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add to, update or change information contained in the prospectus and, accordingly, to the extent inconsistent, information in this prospectus is superseded by the information in the prospectus supplement.

The prospectus supplement to be attached to the front of this prospectus may describe, as applicable: the terms of the securities offered; the public offering price; the price paid for the securities; net proceeds; and the other specific terms related to the offering of the securities.

You should only rely on the information contained or incorporated by reference in this prospectus and any prospectus supplement or issuer free writing prospectus relating to a particular offering. No person has been authorized to give any information or make any representations in connection with this offering other than those contained or incorporated by reference in this prospectus, any accompanying prospectus supplement and any related issuer free writing prospectus in connection with the offering described herein and therein, and, if given or made, such information or representations must not be relied upon as having been authorized by us. Neither this prospectus nor any prospectus supplement nor any related issuer free writing prospectus shall constitute an offer to sell or a solicitation of an offer to buy offered securities in any jurisdiction in which it is unlawful for such person to make such an offering or solicitation. This prospectus does not contain all of the information included in the registration statement. For a more complete understanding of the offering of the securities, you should refer to the registration statement, including its exhibits.

You should read the entire prospectus and any prospectus supplement and any related issuer free writing prospectus, as well as the documents incorporated by reference into this prospectus or any prospectus supplement or any related issuer free writing prospectus, before making an investment decision. Neither the delivery of this prospectus or any prospectus supplement or any issuer free writing prospectus nor any sale made hereunder shall under any circumstances imply that the information contained or incorporated by reference herein or in any prospectus supplement or issuer free writing prospectus is correct as of any date subsequent to the date hereof or of such prospectus supplement or issuer free writing prospectus, as applicable. You should assume that the information appearing in this prospectus, any prospectus supplement or any document incorporated by reference is accurate only as of the date of the applicable documents, regardless of the time of delivery of this prospectus or any sale of securities. Our business, financial condition, results of operations and prospects may have changed since that date.

All references in this prospectus to "BioSig," the "Company," "we," "us," "our," or similar terms refer to BioSig Technologies, Inc. and its subsidiaries taken as a whole, except where the context otherwise requires or as otherwise indicated.

ii

CAUTIONARY STATEMENT REGARDING FORWARD LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain forward-looking statements 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"). Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These statements are often, but are not always, made through the use of words or phrases such as "anticipate," "contemplate," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "seek," "should," "target," "will," and "would," or the negative of these terms, or similar expressions. Such forward-looking statements are subject to certain risks, uncertainties and assumptions relating to factors that could cause actual results to differ materially from those anticipated in such statements, including, without limitation, the following:

- our history of recurring losses and negative cash flows from operating activities and the uncertainty regarding the adequacy of our liquidity to pursue or complete our business objectives, and substantial doubt regarding our ability to continue as a going concern;
- our ability to maintain the listing of our common stock on The Nasdaq Capital Market;
- the results of ongoing and future clinical studies;
- our inability to successfully develop or commercialize our product candidates;

- market acceptance of existing and new products;
- our inability to carry out research, development and commercialization plans;
- delays in any phase of the preclinical or clinical development of a product, including during its research and development;
- our inability to complete preclinical testing and clinical trials as anticipated;
- changes in our relationship with key collaborators;
- our ability to adequately protect and enforce rights to intellectual property;
- our need to raise additional capital to meet our business requirements in the future and the difficulties in obtaining financing on commercially reasonable terms, or at all;
- intense competition in our industry, with competitors having substantially greater financial, technological, research and development, regulatory and clinical, manufacturing, marketing and sales, distribution and personnel resources than we do;
- · our inability to manufacture our PURE EP product on a commercial scale on our own or in collaborations with third parties
- entry of new competitors and products and potential technological obsolescence of our products;
- effect of healthcare legislation or reform measures that may substantially change the market for medical care or healthcare coverage in the U.S.;
- our failure to obtain regulatory approvals;
- adverse market and economic conditions;
- loss of one or more key executives;
- · difficulties in securing and retaining regulatory approval to market our product and product candidates; and
- depth of the trading market in our common stock.

You should read this prospectus, the applicable prospectus supplement and any related free-writing prospectus and the documents incorporated by reference in this prospectus with the understanding that our actual future results, levels of activity, performance and events and circumstances may be materially different from what we expect. The forward-looking statements contained or incorporated by reference in this prospectus or any prospectus supplement are expressly qualified in their entirety by this cautionary statement. We do not undertake any obligation to publicly update any forward-looking statement to reflect events or circumstances after the date on which any such statement is made or to reflect the occurrence of unanticipated events.

1

PROSPECTUS SUMMARY

This summary provides an overview of selected information contained elsewhere or incorporated by reference in this prospectus and does not contain all of the information you should consider before investing in our securities. You should carefully read the prospectus, the information incorporated by reference and the registration statement of which this prospectus is a part in their entirety before investing in our securities, including the information discussed under "Risk Factors" in this prospectus and the documents incorporated by reference and our financial statements and notes thereto that are incorporated by reference in this prospectus. Some of the statements in this prospectus and the documents incorporated by reference herein constitute forward-looking statements that involve risks and uncertainties. See information set forth under the section "Cautionary Statement Regarding Forward-Looking Statements."

Overview

BioSig Technologies, Inc. is a medical device company with an advanced digital signal processing technology platform to deliver insights to the treatment of cardiovascular arrhythmias. Through collaboration with physicians, experts, and healthcare leaders across the field of electrophysiology (EP), we are committed to addressing healthcare's biggest priorities — saving time, saving costs, and saving lives.

Our first product, the PURE EPTM System, is an FDA 510(k) cleared non-invasive class II device consisting of a unique combination of hardware and software designed to provide unprecedented signal clarity and precision for real-time visualization of intracardiac signals paving the way for personalized patient care. Integrating with existing systems in the EP lab, PURE EPTM is designed to accurately pinpoint even the most complex signals to maximize procedural success and efficiency.

By capturing critical cardiac signals—even the most complex, the PURE EPTM System is designed to enhance clinical decision-making and improve clinical workflow for all types of arrhythmias - even the most challenging procedures for cardiac arrhythmias, like ventricular tachycardia (VT) and atrial fibrillation (AF).

Our owned patent portfolio now includes 41 issued/allowed utility patents (29 utility patents where BioSig is at least one of the applicants). Twenty seven additional U.S. and foreign utility patent applications are pending covering various aspects of our PURE EP System for recording, measuring, calculating and displaying of electrocardiograms during cardiac ablation procedures (27 U.S. and foreign utility patent applications where either BioSig, Mayo, or both is at least one of the applicants). We also have one U.S. patent and one U.S. Pending application directed to artificial intelligence (AI). We also have 30 issued worldwide design patents, which cover various features of our display screens and graphical user interface for enhanced visualization of biomedical signals (30 design patents where BioSig is at least one of the applicants). Finally, we have licenses to 12 (issued/allowed) patents and 9 additional worldwide utility patent applications from Mayo Foundation for Medical Education and Research that are pending (12 issued/allowed patents and 9 applications where only Mayo is the applicant). These patents and applications are generally directed to electroporation and stimulation.

2

Corporate Information

We were formed as BioSig Technologies, Inc., a Nevada corporation, in February 2009. In April 2011, we merged with our wholly-owned subsidiary, BioSig Technologies Inc., a Delaware corporation, with the Delaware corporation continuing as the surviving entity. Our principal executive offices are located at 12424 Wilshire

Blvd., Suite 745, Los Angeles, CA 90025, and our telephone number is (203) 409-5444. Our website address is www.biosig.com. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports, are available to you free of charge through the "Investors" section of our website as soon as reasonably practicable after such materials have been electronically filed with, or furnished to, the SEC. Information contained on our website does not form a part of this prospectus.

The Securities We May Offer

We may offer up to \$75,000,000 of common stock, preferred stock, warrants and/or units in one or more offerings and in any combination. This prospectus provides you with a general description of the securities we may offer. A prospectus supplement, which we will provide each time we offer securities, will describe the specific amounts, prices and terms of these securities.

Common Stock

We may issue shares of our common stock from time to time. Holders of our common stock are entitled to receive ratably dividends as may be declared by the board of directors out of funds legally available for that purpose. We have never paid cash dividends on our common stock and do not anticipate paying any cash dividends in the foreseeable future but intend to retain our capital resources for reinvestment in our business. Any future disposition of dividends will be at the discretion of our board of directors and will depend upon, among other things, our future earnings, operating and financial condition, capital requirements, and other factors.

Each share of common stock entitles the holder to one vote, either in person or by proxy, at meetings of stockholders. The holders are not permitted to vote their shares cumulatively. Accordingly, the stockholders of our common stock who hold, in the aggregate, more than fifty percent of the total voting rights can elect all of our directors and, in such event, the holders of the remaining minority shares will not be able to elect any of such directors. The affirmative vote of the holders of a majority in voting power of the votes cast (excluding abstentions and broker non-votes) on any matter other than the election of directors that is presented to stockholders at a duly called or convened meeting at which a quorum is present is sufficient to authorize, affirm, ratify or consent to such act or action, except as otherwise provided by our certificate of incorporation, our bylaws, the rules or regulations of any stock exchange applicable to us, or applicable law or pursuant to any regulation applicable to us or our securities.

Holders of our common stock have no preemptive rights or other subscription rights, conversion rights, redemption or sinking fund provisions. Subject to the rights of the holders of our preferred stock, upon our liquidation, dissolution or winding up, the holders of our 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. The rights, preferences and privileges of holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of any series of preferred stock, which may be designated solely by action of our board of directors and issued in the future.

Preferred Stock

We may issue shares of our preferred stock from time to time, in one or more series. Our board of directors will determine the rights, preferences, privileges and restrictions of the preferred stock, including dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of such series, without any further vote or action by stockholders. Convertible preferred stock will be convertible into our common stock or exchangeable for our other securities. Conversion may be mandatory or at your option or both and would be at prescribed conversion rates.

3

If we sell any series of preferred stock under this prospectus and applicable prospectus supplements, we will fix the rights, preferences, privileges and restrictions of the preferred stock of such series in the certificate of designation relating to that series. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of any certificate of designation that describes the terms of the series of preferred stock we are offering before the issuance of the related series of preferred stock. We urge you to read the applicable prospectus supplement related to the series of preferred stock being offered, as well as the complete certificate of designation that contains the terms of the applicable series of preferred stock.

Warrants

We may issue warrants for the purchase of common stock or preferred stock in one or more series. We may issue warrants independently or together with common stock or preferred stock, and the warrants may be attached to or separate from these securities. We will evidence each series of warrants by warrant certificates that we will issue under a separate agreement. We may enter into warrant agreements with a bank or trust company that we select to be our warrant agent. We will indicate the name and address of the warrant agent in the applicable prospectus supplement relating to a particular series of warrants.

In this prospectus, we have summarized certain general features of the warrants. We urge you, however, to read the applicable prospectus supplement related to the particular series of warrants being offered, as well as the warrant agreements and warrant certificates that contain the terms of the warrants. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant agreement or warrant certificate containing the terms of the warrants we are offering before the issuance of the warrants.

Units

We may issue units consisting of common stock, preferred stock and/or warrants for the purchase of common stock or preferred stock in one or more series. In this prospectus, we have summarized certain general features of the units. We urge you, however, to read the applicable prospectus supplement related to the series of units being offered, as well as the unit agreements that contain the terms of the units. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference reports that we file with the SEC, the form of unit agreement and any supplemental agreements that describe the terms of the series of units we are offering before the issuance of the related series of units.

4

RISK FACTORS

An investment in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the specific factors discussed under the heading "Risk Factors" in the applicable prospectus supplement, together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under Part I, Item 1A, "Risk Factors," in our most recent Annual Report on Form 10-K or any updates in our Quarterly Reports on Form 10-Q, which are incorporated herein by reference, as updated or superseded by the risks and uncertainties described under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus and any prospectus supplement related to a particular offering. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations. Past financial performance may not be a

5

USE OF PROCEEDS

We cannot assure you that we will receive any proceeds in connection with securities which may be offered pursuant to this prospectus. Unless otherwise indicated in the applicable prospectus supplement, we intend to use any net proceeds from the sale of securities under this prospectus for our operations and for other general corporate purposes, including, but not limited to, general working capital and possible future acquisitions. We have not determined the amounts we plan to spend on any of the areas listed above or the timing of these expenditures. As a result, our management will have broad discretion to allocate the net proceeds, if any, we receive in connection with securities offered pursuant to this prospectus for any purpose. Pending application of the net proceeds as described above, we may initially invest the net proceeds in investment-grade, interest-bearing securities such as money market funds, certificates of deposit, or direct or guaranteed obligations of the U.S. government, hold as cash or apply them to the reduction of short-term indebtedness.

6

DESCRIPTION OF CAPITAL STOCK

The following description of common stock and preferred stock summarizes the material terms and provisions of the common stock and preferred stock that we may offer under this prospectus, but is not complete. For the complete terms of our common stock and preferred stock, please refer to our amended and restated certificate of incorporation, as amended, any certificates of designation for our preferred stock, and our amended and restated bylaws, as amended. While the terms we have summarized below will apply generally to any future common stock or preferred stock that we may offer, we will describe the specific terms of any series of preferred stock in more detail in the applicable prospectus supplement. If we so indicate in a prospectus supplement, the terms of any preferred stock we offer under that prospectus supplement may differ from the terms we describe below.

We have authorized 201,000,000 shares of capital stock, par value \$0.001 per share, of which 200,000,000 are shares of common stock and 1,000,000 are shares of "blank check" preferred stock, of which 200 are authorized as Series A Preferred Stock, 600 are authorized as Series B Preferred Stock, 4,200 are authorized as Series C Preferred Stock, 1,400 are authorized as Series F Junior Participating Preferred Stock. As of December 9, 2024, there were 17,234,929 shares of common stock issued and outstanding, 105 shares of Series C Preferred Stock issued and outstanding and no shares of our Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series D Convertible Preferred Stock or Series F Junior Participating Preferred Stock issued and outstanding. The authorized and unissued shares of common stock and the authorized and undesignated shares of preferred stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange on which our securities may be listed. Unless approval of our stockholders is so required, our board of directors does not intend to seek stockholder approval for the issuance and sale of our common stock or preferred stock.

Common Stock

The holders of common stock are entitled to one vote per share on all matters to be voted upon by stockholders. Holders of our common stock are entitled to receive ratably dividends as may be declared by the board of directors out of funds legally available for that purpose. We have never paid cash dividends on our common stock and do not anticipate paying any cash dividends in the foreseeable future but intend to retain our capital resources for reinvestment in our business. Any future disposition of dividends will be at the discretion of our board of directors and will depend upon, among other things, our future earnings, operating and financial condition, capital requirements, and other factors.

Each share of common stock entitles the holder to one vote, either in person or by proxy, at meetings of stockholders. The holders are not permitted to vote their shares cumulatively. Accordingly, the stockholders of our common stock who hold, in the aggregate, more than fifty percent of the total voting rights can elect all of our directors and, in such event, the holders of the remaining minority shares will not be able to elect any of such directors. The affirmative vote of the holders of a majority in voting power of the votes cast (excluding abstentions and broker non-votes) on any matter other than the election of directors that is presented to stockholders at a duly called or convened meeting at which a quorum is present is sufficient to authorize, affirm, ratify or consent to such act or action, except as otherwise provided by our certificate of incorporation, our bylaws, the rules or regulations of any stock exchange applicable to us, or applicable law or pursuant to any regulation applicable to us or our securities.

Holders of our common stock have no preemptive rights or other subscription rights, conversion rights, redemption or sinking fund provisions. Subject to the rights of the holders of our preferred stock, upon our liquidation, dissolution or winding up, the holders of our 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.

7

The transfer agent and registrar for our common stock is Securities Transfer Corporation. The transfer agent's address is 2901 N. Dallas Parkway, Suite 380, Plano, TX 75093. Our common stock is listed on The Nasdaq Capital Market under the symbol "BSGM."

Preferred Stock

The board of directors is authorized, subject to any limitations prescribed by law, without further vote or action by the stockholders, to issue from time to time shares of preferred stock in one or more series. Each such series of preferred stock shall have such number of shares, designations, preferences, voting powers, qualifications, and special or relative rights or privileges as shall be determined by the board of directors, which may include, among others, dividend rights, voting rights, liquidation preferences, conversion rights and preemptive rights. Issuance of preferred stock by our board of directors may result in such shares having dividend and/or liquidation preferences senior to the rights of the holders of our common stock and could dilute the voting rights of the holders of our common stock.

Prior to the issuance of shares of each series of preferred stock, the board of directors is required by the Delaware General Corporation Law (the "DGCL") and our certificate of incorporation to adopt resolutions and file a certificate of designation with the Secretary of State of the State of Delaware. The certificate of designation fixes for each class or series the designations, powers, preferences, rights, qualifications, limitations and restrictions, including, but not limited to, some or all of the following:

- the number of shares constituting that series and the distinctive designation of that series, which number may be increased or decreased (but not below the number of shares then outstanding) from time to time by action of the board of directors;
- the dividend rate and the manner and frequency of payment of dividends on the shares of that series, whether dividends will be cumulative, and, if so, from which date;
- whether that series will have voting rights, in addition to any voting rights provided by law, and, if so, the terms of such voting rights;

- whether that series will have conversion privileges, and, if so, the terms and conditions of such conversion, including provision for adjustment of the conversion rate in such events as the board of directors may determine;
- whether or not the shares of that series will be redeemable, and, if so, the terms and conditions of such redemption;
- whether that series will have a sinking fund for the redemption or purchase of shares of that series, and, if so, the terms and amount of such sinking fund;
- whether or not the shares of the series will have priority over or be on a parity with or be junior to the shares of any other series or class in any respect;
- the rights of the shares of that series in the event of voluntary or involuntary liquidation, dissolution or winding up of the corporation, and the relative rights or priority, if
 any, of payment of shares of that series; and
- any other relative rights, preferences and limitations of that series.

Once designated by our board of directors, each series of preferred stock may have specific financial and other terms that will be described in a prospectus supplement. The description of the preferred stock that is set forth in any prospectus supplement is not complete without reference to the documents that govern the preferred stock. These include our certificate of incorporation and any certificates of designation that our board of directors may adopt.

8

All shares of preferred stock offered hereby will, when issued, be fully paid and nonassessable, including shares of preferred stock issued upon the exercise of preferred stock warrants or subscription rights, if any.

Although our board of directors has no intention at the present time of doing so, it could authorize the issuance of a series of preferred stock that could, depending on the terms of such series, impede the completion of a merger, tender offer or other takeover attempt.

Anti-Takeover Effects of Certain Provisions of Delaware Law, our Certificate of Incorporation and Bylaws

Delaware Law

We are subject to Section 203 of the DGCL. Section 203 generally prohibits a public Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding (but not the outstanding voting stock owned by the interested stockholder) (i) shares owned by persons who are directors and also officers and (ii) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or subsequent to the date of the transaction, the business combination is approved by the board and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an "interested stockholder" as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with, or controlling, or controlled by, the entity or person. The term "owner" is broadly defined to include any person that, individually, with or through that person's affiliates or associates, among other things, beneficially owns the stock, or has the right to acquire the stock, whether or not the right is immediately exercisable, under any agreement or understanding or upon the exercise of warrants or options or otherwise or has the right to vote the stock under any agreement or understanding with the beneficial owner of the stock for the purpose of acquiring, holding, voting or disposing of the stock.

The restrictions in Section 203 do not apply to corporations that have elected, in the manner provided in Section 203, not to be subject to Section 203 of the DGCL or, with certain exceptions, which do not have a class of voting stock that is listed on a national securities exchange or held of record by more than 2,000 stockholders. Our certificate of incorporation and bylaws do not opt out of Section 203.

9

Section 203 could delay or prohibit mergers or other takeover or change in control attempts with respect to us and, accordingly, may discourage attempts to acquire us even though such a transaction may offer our stockholders the opportunity to sell their stock at a price above the prevailing market price.

Certificate of Incorporation and Bylaws

Provisions of our certificate of incorporation and bylaws may delay or discourage transactions involving an actual or potential change in our control or change in our management, including transactions in which stockholders might otherwise receive a premium for their shares, or transactions that our stockholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our common stock. Among other things, our certificate of incorporation and bylaws:

- permit our board of directors to issue up to 1,000,000 shares of preferred stock, without further action by the stockholders, with any rights, preferences and privileges as they may designate, including the right to approve an acquisition or other change in control;
- · provide that the authorized number of directors may be changed only by a resolution adopted by a majority of the total number of authorized directors;

- 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); and
- provide advance notice provisions with which a stockholder who wishes to nominate a director or propose other business to be considered at a stockholder meeting must comply.

DESCRIPTION OF WARRANTS

As of December 9, 2024, there were outstanding warrants to purchase 4,899,716 shares of common stock.

We may issue warrants for the purchase of common stock or preferred stock in one or more series. We may issue warrants independently or together with common stock or preferred stock, and the warrants may be attached to or separate from these securities.

We will evidence each series of warrants by warrant certificates that we may issue under a separate agreement. We may enter into a warrant agreement with a warrant agent. Each warrant agent may be a bank that we select which has its principal office in the United States. We may also choose to act as our own warrant agent. We will indicate the name and address of any such warrant agent in the applicable prospectus supplement relating to a particular series of warrants.

We will describe in the applicable prospectus supplement the terms of the series of warrants, including:

- the offering price and aggregate number of warrants offered;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;

10

- in the case of warrants to purchase common stock or preferred stock, the number or amount of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which and currency in which these shares may be purchased upon such exercise;
- the manner of exercise of the warrants, including any cashless exercise rights;
- the warrant agreement under which the warrants will be issued;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;
- anti-dilution provisions of the warrants, if any;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire or, if the warrants are not continuously exercisable during that period, the specific date or dates on which the warrants will be exercisable;
- the manner in which the warrant agreement and warrants may be modified;
- the identities of the warrant agent and any calculation or other agent for the warrants;
- federal income tax consequences of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants;
- · any securities exchange or quotation system on which the warrants or any securities deliverable upon exercise of the warrants may be listed or quoted; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including, in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any.

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to 5:00 P.M. Eastern Time, the close of business, on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required exercise price by the methods provided in the applicable prospectus supplement. We will set forth on the reverse side of the warrant certificate, and in the applicable prospectus supplement, the information that the holder of the warrant will be required to deliver to the warrant agent.

11

Upon receipt of the required payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by the warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants.

Any warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action the holder's right to exercise, and receive the securities purchasable upon exercise of, its warrants in accordance with their terms.

Warrant Agreement Will Not Be Qualified Under Trust Indenture Act

No warrant agreement will be qualified as an indenture, and no warrant agent will be required to qualify as a trustee, under the Trust Indenture Act of 1939. Therefore, holders of warrants issued under a warrant agreement will not have the protection of the Trust Indenture Act of 1939 with respect to their warrants.

Governing Law

Unless we provide otherwise in the applicable prospectus supplement, each warrant agreement and any warrants issued under the warrant agreements will be governed by New York law.

DESCRIPTION OF UNITS

We may issue units comprised of one or more of the other securities described in this prospectus or any prospectus supplement in any combination. Each unit will be issued so that the holder of the unit is also the holder, with the rights and obligations of a holder, of each security included in the unit. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any times before a specified date or upon the occurrence of a specified event or occurrence.

The applicable prospectus supplement will describe:

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

12

PLAN OF DISTRIBUTION

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

- to or through underwriters;
- through broker-dealers (acting as agent or principal);
- through agents;
- directly by us to one or more purchasers (including our affiliates and stockholders), through a specific bidding or auction process, a rights offering or otherwise;
- through a combination of any such methods of sale; or
- through any other methods described in a prospectus supplement or free writing prospectus.

The distribution of securities may be effected, from time to time, in one or more transactions, including:

- block transactions (which may involve crosses) and transactions on The Nasdaq Capital Market or any other organized market where the securities may be traded;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its own account pursuant to a prospectus supplement or free writing prospectus;
- ordinary brokerage transactions and transactions in which a broker-dealer solicits purchasers;
- · sales "at the market" to or through a market maker or into an existing trading market, on an exchange or otherwise; and
- sales in other ways not involving market makers or established trading markets, including direct sales to purchasers.

The applicable prospectus supplement or free writing prospectus will describe the terms of the offering of the securities, including:

- the name or names of any underwriters, if, and if required, any dealers or agents;
- the purchase price of the securities and the proceeds we will receive from the sale;
- any underwriting discounts and other items constituting underwriters' compensation;
- any discounts or concessions allowed or re-allowed or paid to dealers; and
- any securities exchange or market on which the securities may be listed or traded.

We may distribute the securities from time to time in one or more transactions at:

- a fixed price or prices, which may be changed;
- market prices prevailing at the time of sale;

negotiated prices.

Only underwriters named in the prospectus supplement are underwriters of the securities offered by the prospectus supplement.

If underwriters are used in an offering, we will execute an underwriting agreement with such underwriters and will specify the name of each underwriter and the terms of the transaction (including any underwriting discounts and other terms constituting compensation of the underwriters and any dealers) in a prospectus supplement. The securities may be offered to the public either through underwriting syndicates represented by managing underwriters or directly by one or more investment banking firms or others, as designated. If an underwriting syndicate is used, the managing underwriter(s) will be specified on the cover of the prospectus supplement. If underwriters are used in the sale, the offered securities will be acquired by the underwriters for their own accounts and may be resold 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. Any public offering price and any discounts or concessions allowed or reallowed or paid to dealers may be changed from time to time. Unless otherwise set forth in the prospectus supplement, the obligations of the underwriters to purchase the offered securities will be subject to conditions precedent, and the underwriters will be obligated to purchase all of the offered securities, if any are purchased.

We may grant to the underwriters options to purchase additional securities to cover over-allotments, if any, at the public offering price, with additional underwriting commissions or discounts, as may be set forth in a related prospectus supplement. The terms of any over-allotment option will be set forth in the prospectus supplement for those securities.

If we use a dealer in the sale of the securities being offered pursuant to this prospectus or any prospectus supplement, we will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale. The names of the dealers and the terms of the transaction will be specified in a prospectus supplement.

We may sell the securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities and we will describe any commissions we will pay the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, any agent will act on a best-efforts basis for the period of its appointment.

We may authorize agents or underwriters to solicit offers by institutional investors to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. We will describe the conditions to these contracts and the commissions we must pay for solicitation of these contracts in the prospectus supplement.

In connection with the sale of the securities, underwriters, dealers or agents may receive compensation from us or from purchasers of the securities for whom they act as agents, in the form of discounts, concessions or commissions. Underwriters may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions from the purchasers for whom they may act as agents. Underwriters, dealers and agents that participate in the distribution of the securities, and any institutional investors or others that purchase securities directly for the purpose of resale or distribution, may be deemed to be underwriters, and any discounts or commissions received by them from us and any profit on the resale of the common stock by them may be deemed to be underwriting discounts and commissions under the Securities Act.

We may provide agents, underwriters and other purchasers with indemnification against particular civil liabilities, including liabilities under the Securities Act, or contribution with respect to payments that the agents, underwriters or other purchasers may make with respect to such liabilities. Agents and underwriters may engage in transactions with, or perform services for, us in the ordinary course of business.

To facilitate the public offering of a series of securities, persons participating in the offering may engage in transactions that stabilize, maintain, or otherwise affect the market price of the securities. This may include over-allotments or short sales of the securities, which involves the sale by persons participating in the offering of more securities than have been sold to them by us. In addition, those persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to underwriters or dealers participating in any such offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. Such transactions, if commenced, may be discontinued at any time. We make no representation or prediction as to the direction or magnitude of any effect that the transactions described above, if implemented, may have on the price of our securities.

Unless otherwise specified in the applicable prospectus supplement, any common stock sold pursuant to a prospectus supplement will be eligible for listing on The Nasdaq Capital Market, subject to official notice of issuance. Any underwriters to whom securities are sold by us for public offering and sale may make a market in the securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice.

In order to comply with the securities laws of some states, if applicable, the securities offered pursuant to this prospectus will be sold in those states only through registered or licensed brokers or dealers. In addition, in some states securities may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and complied with.

14

LEGAL MATTERS

The validity of the securities offered by this prospectus will be passed upon for us by Sichenzia Ross Ference Carmel LLP, New York, New York.

EXPERTS

The financial statements for the years ended December 31, 2023 and 2022 incorporated by reference in this registration statement have been audited by Marcum LLP, an independent registered public accounting firm, as stated in the report (the report on the financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern). Such financial statements are incorporated by reference in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Exchange Act, and in accordance therewith file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains an internet website at www.sec.gov that contains periodic and current reports, proxy and information statements and other information regarding registrants that are filed electronically with the SEC.

These documents are also available, free of charge, through the Investors section of our website, which is located at www.biosig.com.

We have filed with the SEC a registration statement under the Securities Act, relating to the offering of these securities. The registration statement, including the attached exhibits, contains additional relevant information about us and the securities. This prospectus does not contain all of the information set forth in the registration statement. You can obtain a copy of the registration statement for free at www.sec.gov. The registration statement and the documents referred to below under "Incorporation of Documents by Reference" are also available on our website, www.biosig.com.

We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this prospectus.

INCORPORATION OF DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" the information we have filed with it, which means that we can disclose important information to you by referring you to those documents. The information we incorporate by reference is an important part of this prospectus, and later information that we file with the SEC will automatically update and supersede this information. We specifically are incorporating by reference the following documents filed with the SEC and any future documents we file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (excluding those portions of any Current Report on Form 8-K that are furnished and not deemed "filed" pursuant to the General Instructions of Form 8-K), in each case, between the date of the initial registration statement and the effectiveness of the registration statement until the offering of the securities under the registration statement is terminated:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, filed with the SEC on April 16, 2024;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2024, June 30, 2024 and September 30, 2024 filed with the SEC on May 20, 2024, August 14, 2024 and November 14, 2024, respectively;
- our Current Reports on Form 8-K filed with the SEC on <u>January 8, 2024, January 12, 2024, January 31, 2024, February 1, 2024, February 2, 2024, February 21, 2024, February 21, 2024, February 28, 2024, March 11, 2024, March 12, 2024, March 18, 2024, May 2, 2024, May 3, 2024, May 7, 2024, May 7, 2024, May 7, 2024, May 7, 2024, May 21, 2024, May 28, 2024, May 30, 2024, June 10, 2024, June 11, 2024, June 26, 2024, July 24, 2024, September 13, 2024, October 22, 2024, October 29, 2024, November 13, 2024 and December 6, 2024; and</u>
- the description of the Company's common stock and warrants contained in the Form 8-A filed with the SEC on September 17, 2018, as amended by Exhibit 4.1 to our

 Annual Report on Form 10-K for the fiscal year ended December 31, 2023, including any amendments thereto or reports filed for the purposes of updating this description.

15

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

You should rely only on the information incorporated by reference or provided in this prospectus. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus is accurate as of any date other than the date of this prospectus or the date of the documents incorporated by reference in this prospectus.

We will provide without charge to each person to whom a copy of this prospectus is delivered, upon written or oral request, a copy of any or all of the information that has been incorporated by reference in this prospectus but not delivered with this prospectus (other than an exhibit to these filings, unless we have specifically incorporated that exhibit by reference in this prospectus). Any such request should be addressed to us at:

BioSig Technologies, Inc. Attn: Chief Executive Officer 12424 Wilshire Blvd Suite 745 Los Angeles, CA 90025 (203) 409-5444

You may also access the documents incorporated by reference in this prospectus through our website at www.biosig.com. Except for the specific incorporated documents listed above, no information available on or through our website shall be deemed to be incorporated in this prospectus or the registration statement of which it forms a part.

16



BioSig Technologies, Inc.

Up to \$8,500,000 of Common Stock

PROSPECTUS SUPPLEMENT

H.C. Wainwright & Co.

December 18, 2024