

# BioSig Technologies, Inc.

*Reports Q4 about inline. We believe strong growth for its PURE EP system over the next year to drive stock higher. Raising P/T to \$5.25.*

**Q4 inline:** BioSig recently (on March 31) reported its fiscal Q4 2022 (ending December) results. Revenue was \$0.1 million compared to our estimate of \$0.2 million and consensus of \$0.6 million. EPS was \$(0.14), compared to our and consensus estimate of \$(0.12) - (0.13). There was no company guidance.

**Still early stage:** BioSig's recent financial performance is reflective of its early commercialization stage as it is currently focusing on sales and marketing of its products. Investors should be focused on its commercialization progress, which should drive strong revenue growth over the near term.

**No guidance:** The company did not provide forward guidance.

**Adjusting estimates:** We are adjusting our 2023 estimates for revenues to \$1.5 million, from \$1.4 million, and for EPS to \$(0.40) from \$(0.47).

**Focused on PURE EP:** The company has developed the PURE EP system whose enhanced signal acquisition, digital signal processing, and analysis provides key data used during ablation of cardiac arrhythmias. The PURE EP System is a FDA 510(k) cleared (in August 2018) non-invasive class II device.

**PURE EP system:** The PURE (Precise Uninterrupted Real-time evaluation of Electrograms) EP (Electrophysiology) System is designed to provide essential diagnostic signals during all types of cardiac catheter ablations (a procedure that involves delivery of energy through the tip of a catheter to correct heart rhythm arrhythmias). PURE EP is designed to address long-standing limitations that slow and disrupt cardiac catheter ablation procedures, such as environmental lab noise, signal saturation, slow signal recovery, and inaccurate display of fractionated potentials.

**PURE EP benefits:** PURE EP's features may allow physicians to better determine precise ablation targets, strategy, and end point of procedures with the objective of reducing the need for patients to undergo multiple procedures, and to allow for less experienced EP physicians to perform more complex procedures. It is estimated that over half of cardiac ablation procedures are not successful (requires additional ablation procedures).

**3,000 procedures and growing:** To date, more than 3,000 patient procedures have been conducted with the PURE EP System by more than 80 electrophysiologists across 21 different clinical sites in the U.S. The PURE EP System is currently in national commercial launch in the U.S. at healthcare systems such as Mayo Clinic, Texas Cardiac Arrhythmia Institute, Cleveland Clinic, and Kansas City Heart Rhythm Institute.

**Market opportunities:** According to Health Research International, it is estimated that there are 8,163 global EP lab rooms (with an estimated 3,500 in the U.S.) performing catheter ablations.

**New CFO:** In February, BioSig named Steve Buhaly as its new CFO, succeeding Steve Chaussy who retired. Mr. Buhaly brings over 15 years of CFO experience at three public U.S. companies.

**Balance sheet:** In Q1 (just completed), the company raised ~\$3 million selling stock. We estimate it has enough cash until mid-2023 so it will need to raise new capital soon.

**Positive risks versus rewards:** BioSig's main PURE EP product still has long commercialization challenges ahead, but we believe the ~billion dollars market potential presents high rewards for the risks.

**Current valuation attractive:** We are maintaining our BUY rating, but raising our 12-month price target to \$5.25 from \$5.00 based on a NPV analysis. This represents significant upside from the current share price and we believe appropriately balances out the high risks with large upside opportunities.

## Company Description

BioSig Technologies, based in Westport, CT, is a medical technology company focused on improving the standard of care in electrophysiology (EP).

## Stock Data

Exchange:	NasdaqCM
52-week Range:	0.25 – 1.49
Shares Outstanding (million):	67
Market cap (\$million):	\$72
EV (\$million):	\$72
Debt (\$million):	\$0
Cash (\$million):	\$0
Avg. Daily Trading Vol. (\$million):	\$1
Float (million shares):	44
Short Interest (million shares):	2
Dividend, annual (yield):	\$0 (NA%)

## Revenues (US\$ million)

	<u>2023E</u> (Cur.)	<u>2023E</u> (Old)	<u>2024E</u> (Cur.)	<u>2024E</u> (Old)
Q1 Mar	0.2E		0.7E	
Q2 Jun	0.3E		0.8E	
Q3 Sep	0.4E		1.0E	
Q4 Dec	<u>0.5E</u>	<u>0.6E</u>	<u>1.5E</u>	
Total	1.4E	1.5E	4.0E	
EV/Revs	51x		18x	

## Earnings per Share (pro forma)

	<u>2023E</u> (Cur.)	<u>2023E</u> (Old)	<u>2024E</u> (Cur.)	<u>2024E</u> (Old)
Q1 Mar	(0.10)E	(0.11)E	(0.10)E	
Q2 Jun	(0.10)E	(0.12)E	(0.10)E	
Q3 Sep	(0.10)E	(0.12)E	(0.09)E	
Q4 Dec	<u>(0.10)E</u>	<u>(0.12)E</u>	<u>(0.09)E</u>	
Total	<u>(0.40)E</u>	<u>(0.47)E</u>	<u>(0.38)E</u>	
P/E	N/A		N/A	

## Important Disclosures

Ascendant Capital Markets LLC seeks to do business with companies covered by its research team. Consequently, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making an investment decision.

**For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report, beginning on page 20.**

## COMPANY UPDATE

Rating: **BUY**

Ticker: BSGM

Price: \$1.07

Target: \$5.25  
(from \$5.00)

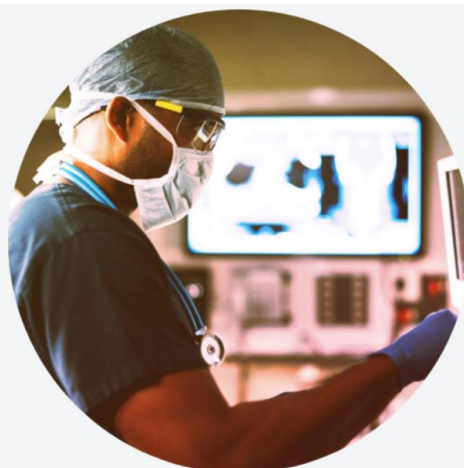
## Exhibit 1: BioSig Technologies Corporate Overview



### On a Mission to Elevate the Standard of Cardiac Care

BioSig is a digital signal processing company that unites expertise in medical engineering, intellectual property, and workflow to deliver superior intracardiac signals with unprecedented precision.

Our technology provides a new level of clarity and resolution in arrhythmia identification and visualization, empowering physicians with actionable insights.



### The PURE EP™ System



With PURE EP™ we're removing unnecessary distractions to preserve the value of cardiac signals delivering clear actionable insights for today's Electrophysiologist.

The PURE EP™ System aims to improve physician workflow efficiency and efficacy while decreasing cost per case.



Source: Company reports.

## Exhibit 2: BioSig Investment Highlights

### BioSig Today



#### Substantial and Growing TAM

Global EP market is projected to reach \$16B by 2028



#### First Customers are Industry Leaders

Capital Purchases from U.S. Medical Centers of Excellence



#### Initial Adoption and Pricing Power

Leasing Program to expedite pathway to purchase



#### New Commercial Team Gaining Traction

Industry veterans with track-record of generating high-performance sales initiatives



#### Recent Med Tech Industry M&A

Medtronic, Affera, Acutus



#### Substantial & Growing IP Portfolio

50 Worldwide fundamental patents granted/allowed



#### Strong Clinic Data

Published/ongoing clinical studies supporting commercialization

Source: Company reports.

## Exhibit 3: BioSig Management Team

### New Management: Strong Industry Experience



### BioSig Appoints Former Qorvo CFO as Successor to Steve Chaussy

Westport, CT, Feb. 07, 2023 (GLOBE NEWSWIRE) --

- **Chief Financial Officer Steve Chaussy retires following 12 years of service**
- **Steve Buhaly joins BioSig as CFO**
- **Buhaly brings 15 years of public company CFO experience, including 9 years of leadership with RF chip technology giant Qorvo**

Source: Company reports.

## Exhibit 4: BioSig's PURE EP System

### Clarity Breeds Opportunity

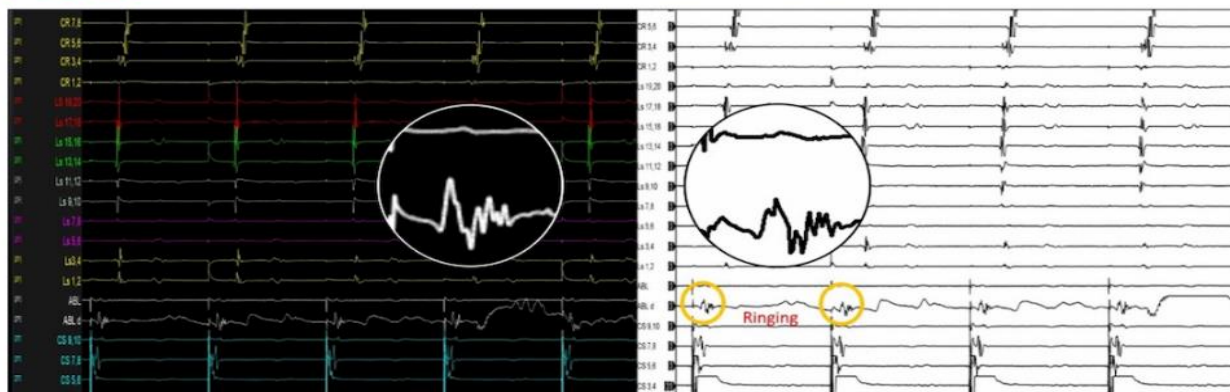
The PURE EP™ System removes unnecessary distractions to preserve the value of cardiac signals and delivers clear, actionable insights for today's electrophysiologist.



**PURE EP™** captures critical cardiac signals — even the most complex — to enhance clinical decision-making for all types of arrhythmias.

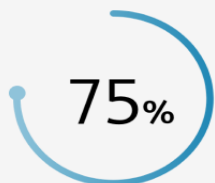
**PURE EP™**

Conventional

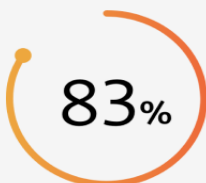


The Algorithmic Notch (AN) in PURE EP™ can eliminate environmental noise without harmonic ringing, preserving all original physiologic details. Conventional classic notch (CN) creates artifact and signal attenuation, introducing false and misleading physiologic fractionation.

### Signal Quality & Clinical Relevance



Improvement in signal quality and confidence in signal interpretation



Improved confidence in interpreting multi-component signals



Improved identification of small fractionated potentials

Source: Company reports.

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Exhibit 5: PURE EP Advanced Signal Acquisition Hardware

## Advanced Signal Acquisition Hardware



### LESS NOISE

Low-noise proprietary architecture enables acquisition of high-fidelity signals in the original, unfiltered format. The PURE EP™ Main System Unit (MSU) topology incorporates advanced shielding and very low noise front-end components.



### HIGHER DEFINITION

PURE EP™ supports a large frequency bandwidth and linear signal acquisition to accurately display complex fractionated signals, even at lower amplitudes and higher frequencies.



### WIDER RANGE

An expanded dynamic range retains cardiac signal details and reduces saturation. PURE EP™ combines a low-noise signal architecture with a fixed range up to 500mV, so signals are rarely clipped or limited by quantization noise.



### UNIPOLAR SIGNALS

PURE EP™ incorporates an innovative WCT+™ design for acquiring unipolar signals, relying on a common front-end circuitry similar to how bipolar intracardiac signals are acquired.

Source: Company reports.

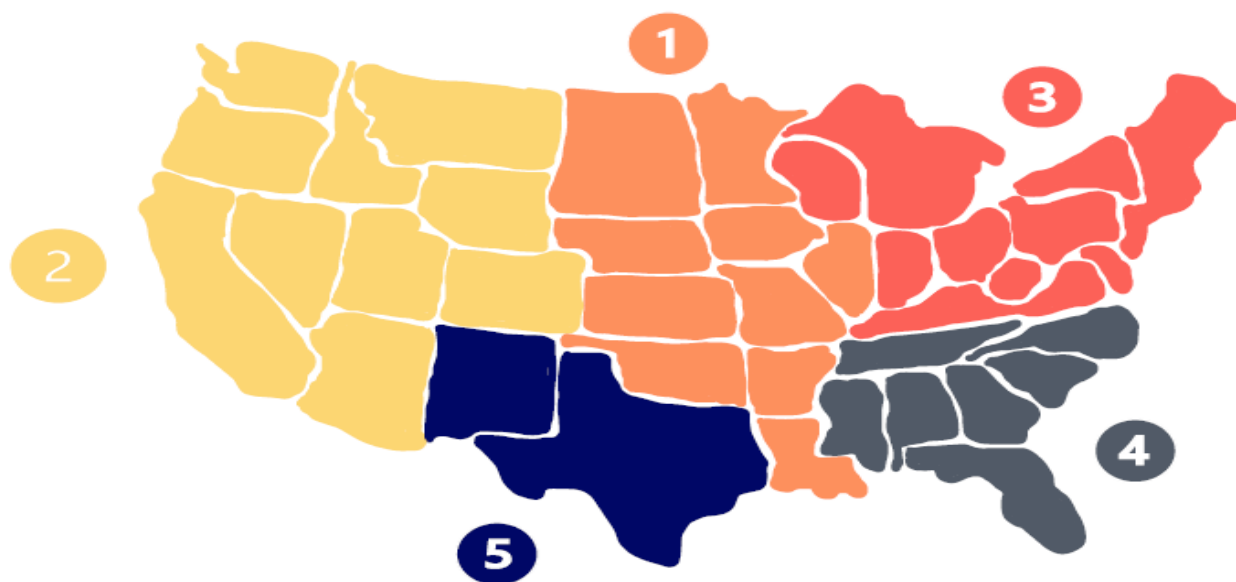
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Exhibit 6: BioSig's Recent History and Future Growth Plans

# Advancing Commercialization



## Sales Geography – Nationwide Rollout



Source: Company reports.

Exhibit 7: PURE EP System

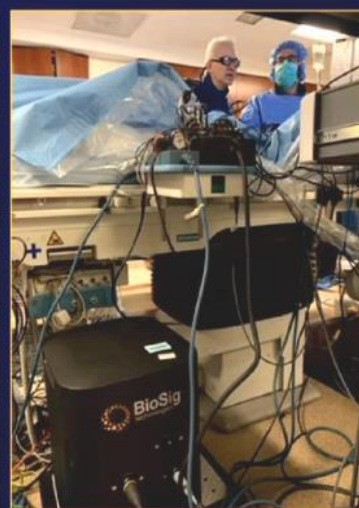
*The current PURE EP System*



## PURE EP™ System | Customer Installation



PURE EP™

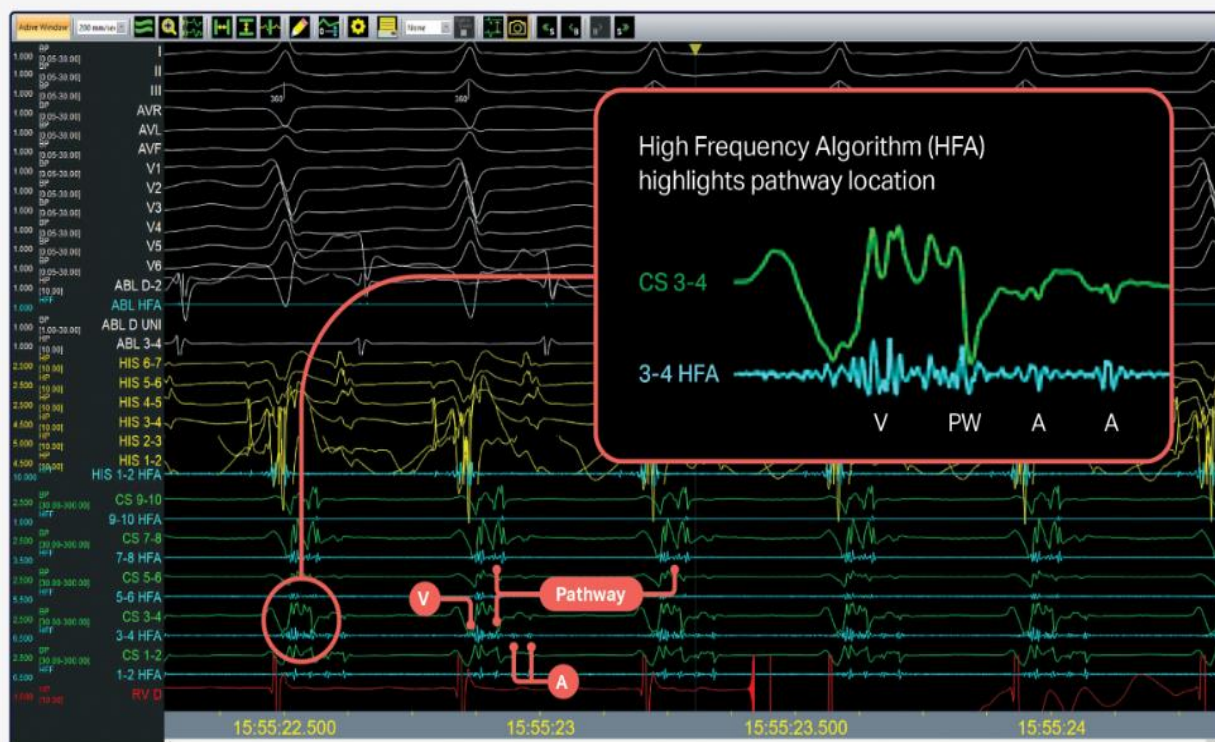


Texas Cardiac Arrhythmia Institute

Source: Company reports.

## Exhibit 8: PURE EP HFA Example

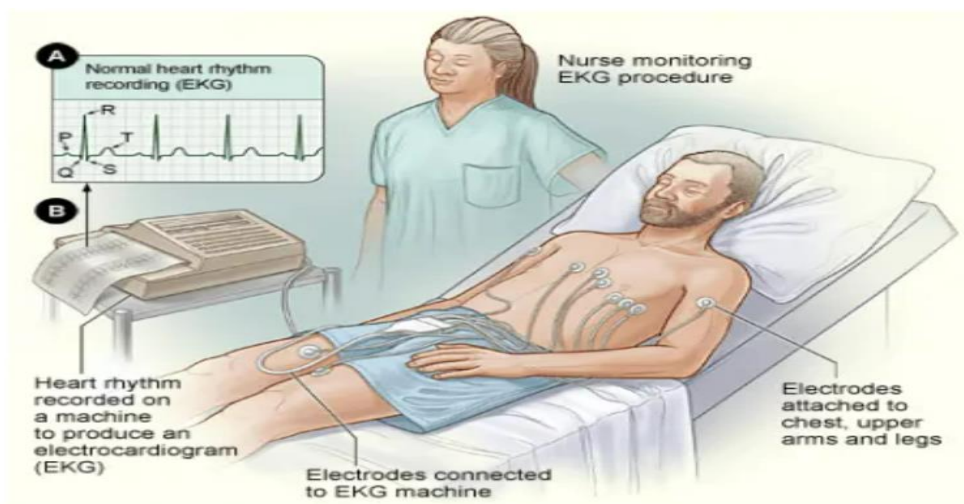
The High Frequency Algorithm (HFA) is a novel and proprietary feature that identifies the key frequency components of cardiac data that can be difficult to identify within the traditional waveform presentation.



The High Frequency Algorithm provides precise location of accessory pathway in the midst of fused bipolar signals.

Source: Company reports.

## Exhibit 9: Electrocardiogram (EKG/ECG) Test



Source: <https://difference.guru/>

## Exhibit 10: Electrocardiogram (EKG/ECG) and the Heart



ECG strip showing a **normal heartbeat**



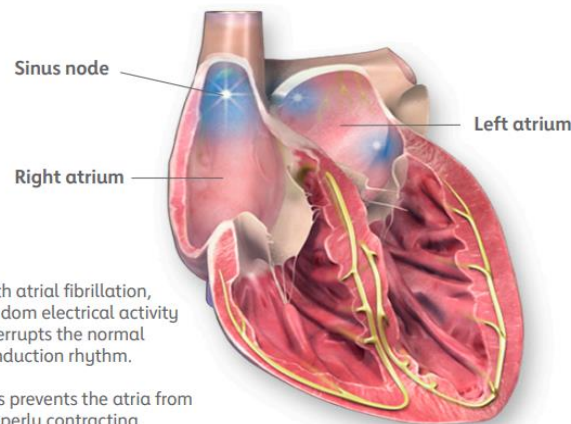
ECG strip showing **bradycardia**



ECG strip showing **tachycardia**

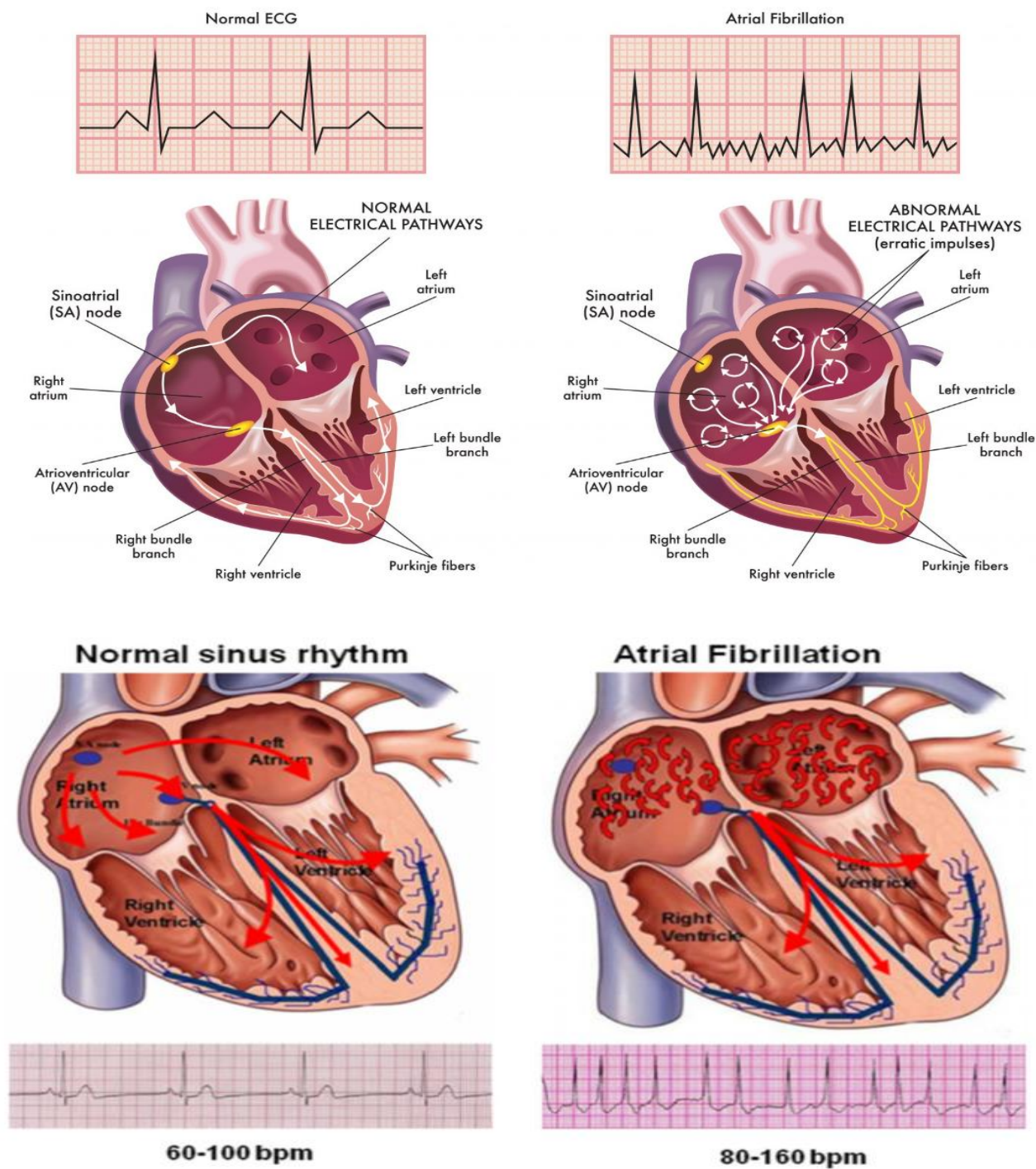


The illustrations above show normal conduction and contraction.



Source: American Heart Association

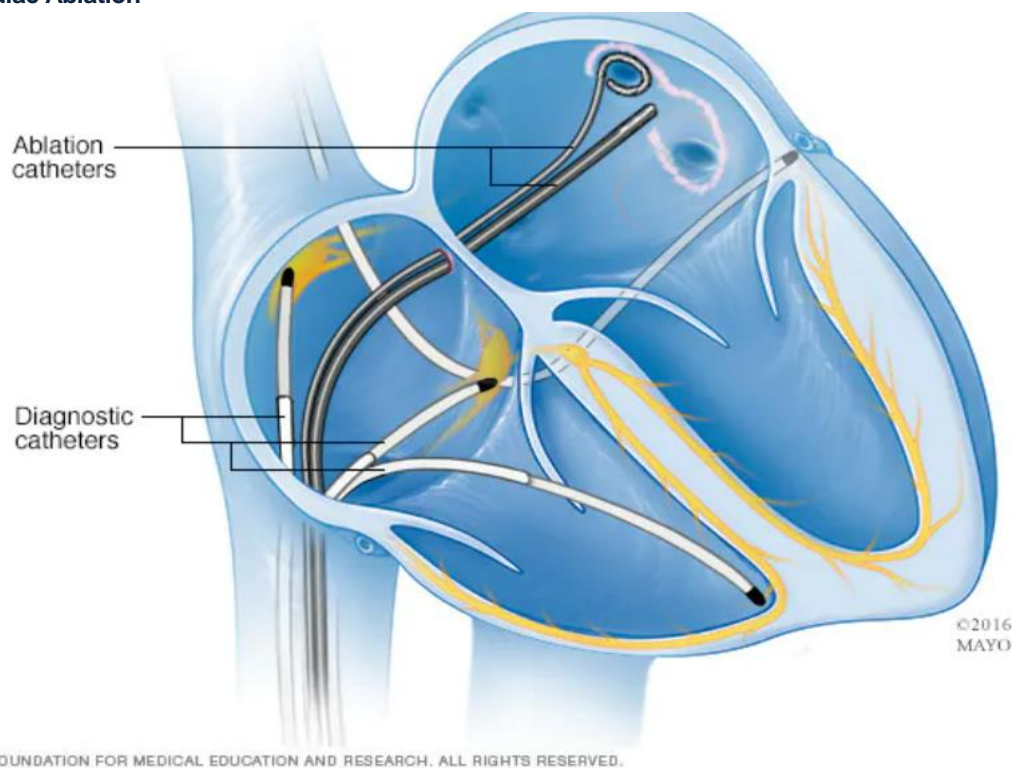
## Exhibit 11: Electrocardiogram (EKG/ECG) and Atrial Fibrillation



Source: <https://www.stopafib.org/>, <https://jamesknellermd.com/>

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**Exhibit 12: Cardiac Ablation**



## **Cardiac ablation**

Source: <https://www.mayoclinic.org/>

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## Exhibit 13: Global EP Market Opportunities

### Market Opportunity



**\$1.6 Billion**

Total Global Addressable Market:  
Installations



**Growing Demand**

Double digit growth in ablation  
procedures



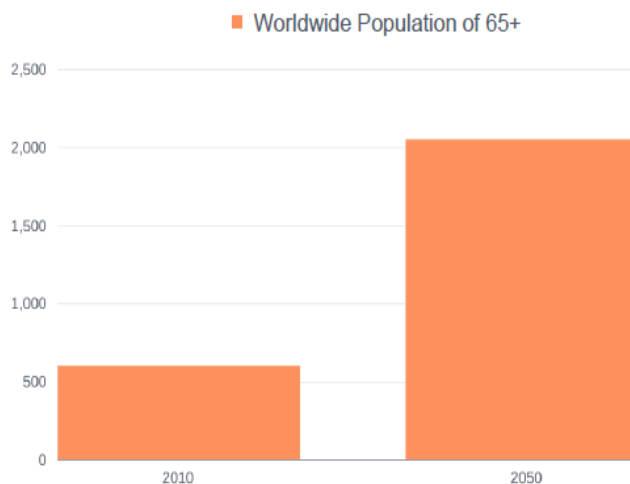
Source: Company reports.

## Exhibit 14: Global EP Market Growth

### Secular Tailwinds

**\$16 billion Global EP market by 2028**

- Projected 12.1 million AFib sufferers in US in 2030
- Aging population of 65+
- Studies show ablation as effective first-line treatment
- Increasing patient preference for ablation
- Resumption of elective surgeries post COVID



Source: Company reports.

## Exhibit 15: PURE EP Clinical Data

# Strong Clinical Data

## PURE EP 2.0

Signals from 51 patients undergoing any ablation procedure

Multi-center (TCAI, Mayo, & MGH)

### STUDY OBJECTIVE:

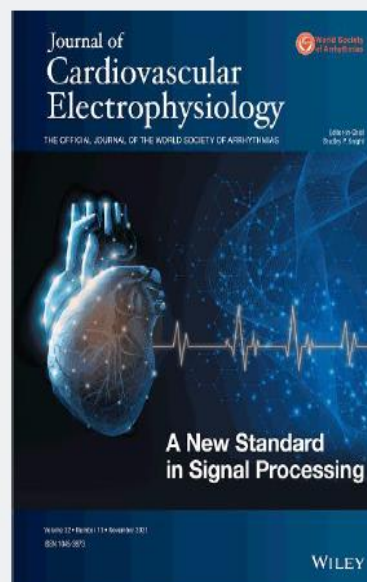
To determine the clinical value of the PURE EP signal when compared to conventional sources

### RESULTS

Cumulatively, 75.2% of PURE EP signals rated as superior to conventional systems.

PURE EP signals were statistically rated as superior in (3) different categories:

- Overall signal quality - 73% superior
- Ability to discern NF vs FF – 83% superior
- Small fractionated signals of clinical interest - 73% superior



### PUBLICATION

Evaluation of a novel cardiac signal processing system for electrophysiology procedures: The PURE EP 2.0 study  
September 2021 Journal of Cardiovascular Electrophysiology

## PURE EP™ aims to improve physician workflow efficiency and efficacy while decreasing cost per case

### Abstract Title

*Reduced Time of Redo Atrial Fibrillation Procedures with PURE EP™ Recording System ECG/EGM Visualization: A Randomized Study*

### Objective

To determine the difference in procedural times when comparing ablations guided by PURE EP™'s electrocardiogram (ECG) visualization to the conventional ECG recording system

### Enrollment

20 patients with non-paroxysmal AF with post-ablation arrhythmia recurrence ("redo AF")

The PURE EP™ System led to a mean procedure time reduction of:



**11.3 minutes**

Given that the mean cost of operating room time is approximately **\$37 per minute**, PURE EP™ demonstrated a potential suggest potential cost savings of approximately:



**\$418.10 per procedure**

Source: Company reports.

## Exhibit 16: BioSig Customer Highlights

### Experience in Well-Respected Healthcare Institutions

**“Having high-quality, better signals makes a difference in almost every case. Since we installed the system in our lab, the efficiency in which we operate has significantly improved.”**

~Dhanunjaya DJ Lakkireddy, MD  
Kansas City Heart Rhythm Institute, Overland Park, KS  
*Complex AF Case Study Utilizing a New Standard in Signal Processing*

TEXAS CARDIAC ARRHYTHMIA INSTITUTE  
St. David's Medical Center

St. David's  
HEALTHCARE

MAYO  
CLINIC

HCA  
MIDWEST  
HEALTH

MIDWEST HEART  
& VASCULAR SPECIALISTS

### Recent Highlights

- 1** Signed Purchase Agreement with Bellin Health in Green Bay, Wisconsin
- 2** PURE EP™ highlighted in peer-reviewed case report (JAFIB- EP)
- 3** Signed Purchase Agreement with San Antonio Methodist Hospital
- 4** Signed Purchase Agreement with Kansas City Rhythm Institute at Overland Park Medical Center
- 5** Signed Master Agreement with Hospital Corporation of America (HCA)
- 6** Announced Multi-System Evaluation Agreement with Cleveland Clinic
- 7** Surpassed 3,000 procedures

Source: Company reports.

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Exhibit 17: Q4 2022 and Recent Corporate Highlights (as of January 19, 2023)

## BioSig Issues Shareholder Update to Highlight Recent Achievements and Ongoing Developments

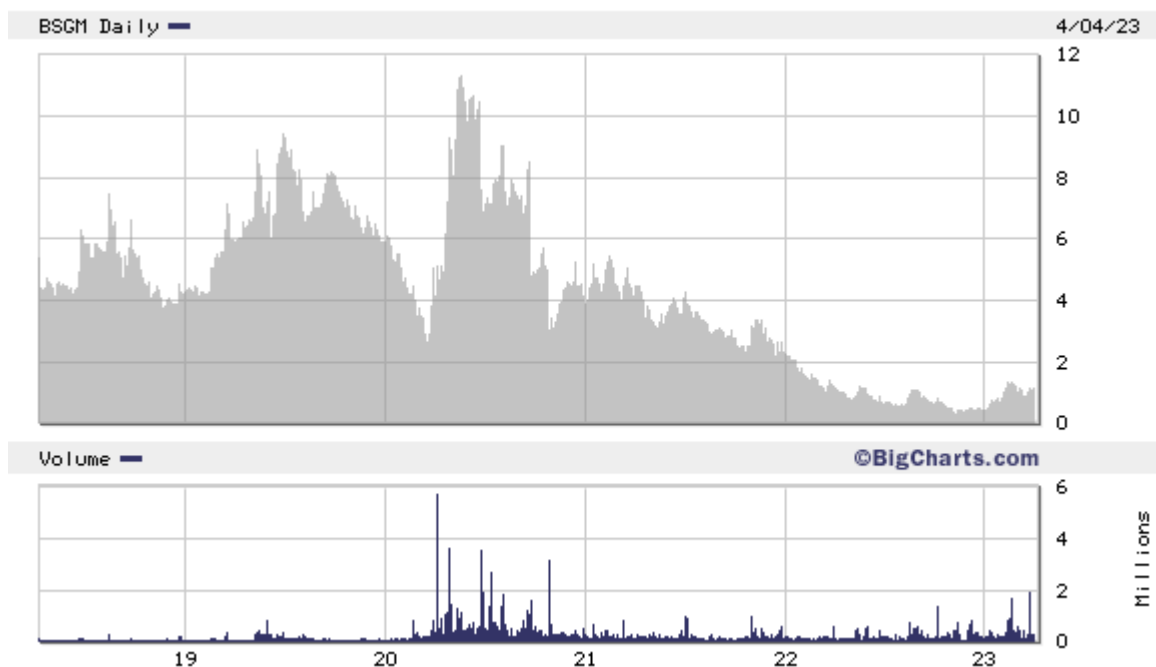
Westport, CT, Jan. 19, 2023 (GLOBE NEWSWIRE) --

- **To date, the Company's FDA 510(k)-cleared PURE EP<sup>™</sup> System has been used in approximately 3,000 patient cases across the United States**
  - **The Company has built a robust pipeline of commercial sale prospects and expects multiple closings in first half of 2023**
  - **New supporting clinical data to be published**
- 
- On January 10, 2023, we announced that Bellin Health entered into an agreement to acquire a PURE EP<sup>™</sup> System. Through a formal evaluation, Bellin reported that clear cardiac signals positively impacted procedural efficiency resulting in cost savings per procedure.
  - Over 3,000 procedures have been performed using the PURE EP<sup>™</sup> System with more than 80 physicians at 21 hospitals across the United States.
  - The PURE EP<sup>™</sup> System was featured in an abstract presentation at the 15th Asia Pacific Heart Rhythm Society (APHRS) Scientific Session in Singapore. Results from the randomized study revealed the PURE EP<sup>™</sup> System's potential to promote shorter procedural times and higher cost savings during catheter ablation procedures.
  - BioSig's PURE EP<sup>™</sup> System was highlighted in a peer-reviewed case report by the *Journal of Atrial Fibrillation & Electrophysiology (JAFIB-EP)*. This clinical abstract detailed the value of PURE EP<sup>™</sup> and its groundbreaking High Frequency Algorithm (HFA) during pulmonary vein isolation.
  - A Master Research Agreement was signed with the Cleveland Clinic to explore expanded applications for its digital signal processing technology.
  - A purchase agreement was signed with San Antonio Methodist Hospital.
  - Launched PURE EP<sup>™</sup> software Version 6 with ACCUVIZ<sup>™</sup> Module highlighting the proprietary High Frequency Algorithm (HFA), a novel feature that identifies the key frequency components of cardiac data that can be difficult to identify within the traditional waveform presentation.
  - Cleveland Clinic, a leading Medical Center of Excellence, agreed to evaluate the PURE EP System, and a short time later requested a second system for evaluation.
  - A purchase agreement was signed with Kansas City Heart Rhythm Institute at Overland Park Regional Medical Center.
  - The PURE EP<sup>™</sup> System was featured at numerous conferences including Kansas City Heart Rhythm Symposium 2022, the 17th Edition Venice Arrhythmias 2022 Congress, and EPLive 2022.

Source: Company reports.

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### Exhibit 18: BioSig Technologies, Inc. Stock Price (5-Years)



Source: <https://bigcharts.marketwatch.com/>

### Exhibit 19: Consensus Expectations (as of March 31, 2023)

	Revenue (mil)			EPS	
	2022E	2023E		2022E	2023E
Q1 Mar	\$0.0A	\$1.4E	Q1 Mar	\$(0.22)A	\$(0.10)E
Q2 Jun	\$0.0A		Q2 Jun	\$(0.15)A	
Q3 Sep	\$0.1A		Q3 Sep	\$(0.14)A	
Q4 Dec	\$0.6E		Q4 Dec	\$(0.12)E	
Total	\$0.8E	\$4.8E	Total	\$(0.61)E	\$(0.34)E

\*Quarterly estimates may not add to annual estimates due to variations in contributing estimates and rounding.

Source: Company report, Refinitiv, and Ascendant Capital Markets estimates

## FINANCIAL MODEL

### BioSig Technologies, Inc.

Income Statement (\$ mils)	Mar-21	Jun-21	Sep-21	Dec-21	2021	Mar-22	Jun-22	Sep-22	Dec-22	2022	Mar-23	Jun-23	Sep-23	Dec-23	2023	Mar-24	Jun-24	Sep-24	Dec-24	2024
Fiscal Year End: December 31	Q1A	Q2A	Q3A	Q4A	FY-A	Q1A	Q2A	Q3A	Q4A	FY-A	Q1E	Q2E	Q3E	Q4E	FY-E	Q1E	Q2E	Q3E	Q4E	FY-E
<b>Total Revenue</b>	0.12	0.21	0.11	0.01	0.44	0.01	0.01	0.14	0.14	0.29	0.20	0.30	0.40	0.60	1.50	0.70	0.80	1.00	1.50	4.00
Cost of Revenues	0.10	0.06	0.04	0.00	0.20	0.00	0.00	0.03	0.03	0.06	0.05	0.08	0.10	0.15	0.38	0.14	0.16	0.20	0.30	0.80
Gross Profit	0.02	0.15	0.07	0.01	0.24	0.01	0.01	0.11	0.11	0.23	0.15	0.23	0.30	0.45	1.13	0.56	0.64	0.80	1.20	3.20
Research & development	1.27	1.67	1.32	1.35	5.60	1.62	1.35	1.73	1.12	5.82	1.60	1.66	1.60	1.50	6.36	1.23	1.40	1.40	1.13	5.15
General & administrative	7.27	6.48	6.51	7.60	27.85	6.40	4.30	4.77	5.903	21.38	4.80	5.40	5.60	5.40	21.20	5.95	6.00	6.00	6.75	24.70
Depreciation	0.04	0.05	0.05	0.06	0.20	0.06	0.07	0.08	0.08	0.29	0.20	0.20	0.20	0.20	0.80	0.20	0.20	0.20	0.20	0.80
Restructuring and other					0.00					0.00					0.00					0.00
Total operating expenses	8.58	8.20	7.87	9.01	33.65	8.07	5.72	6.59	7.11	27.49	6.60	7.26	7.40	7.10	28.36	7.38	7.60	7.60	8.08	30.65
<b>Operating income (loss)</b>	(8.56)	(8.05)	(7.80)	(9.00)	(33.41)	(8.07)	(5.72)	(6.49)	(7.00)	(27.27)	(6.45)	(7.03)	(7.10)	(6.65)	(27.23)	(6.82)	(6.96)	(6.80)	(6.88)	(27.45)
Interest income (expense)	0.00		0.00		0.00			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income (expense)	0.24	0.35	0.55	0.35	1.48	0.10	(0.15)	0.09	(0.05)	(0.01)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income before income taxes	(8.32)	(7.70)	(7.26)	(8.65)	(31.93)	(7.97)	(5.87)	(6.39)	(7.05)	(27.27)	(6.45)	(7.03)	(7.10)	(6.65)	(27.23)	(6.82)	(6.96)	(6.80)	(6.88)	(27.45)
Income taxes					0.00					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net income (loss)	(8.32)	(7.70)	(7.26)	(8.65)	(31.93)	(7.97)	(5.87)	(6.39)	(7.05)	(27.27)	(6.45)	(7.03)	(7.10)	(6.65)	(27.23)	(6.82)	(6.96)	(6.80)	(6.88)	(27.45)
Nonrecurring/noncash adjustments					0.00					0.00					0.00					0.00
<b>Net income (pro forma)</b>	(8.32)	(7.70)	(7.26)	(8.65)	(31.93)	(7.97)	(5.87)	(6.39)	(7.05)	(27.27)	(6.45)	(7.03)	(7.10)	(6.65)	(27.23)	(6.82)	(6.96)	(6.80)	(6.88)	(27.45)
EBITDA																				
Shares, Basic	31.6	32.2	34.9	35.5	33.51	36.0	39.8	45.0	49.5	42.6	66.9	67.9	68.9	69.9	68.4	70.9	71.9	72.9	73.9	72.4
Shares, Diluted	31.6	32.2	34.9	35.5	33.5	36.0	39.8	45.0	49.5	42.6	66.9	67.9	68.9	69.9	68.4	70.9	71.9	72.9	73.9	72.4
EPS Basic (pro forma)	(\$0.26)	(\$0.24)	(\$0.21)	(\$0.24)	(\$0.95)	(\$0.22)	(\$0.15)	(\$0.14)	(\$0.14)	(\$0.64)	(\$0.10)	(\$0.10)	(\$0.10)	(\$0.10)	(\$0.40)	(\$0.10)	(\$0.10)	(\$0.09)	(\$0.09)	(\$0.38)
<b>EPS Diluted (pro forma)</b>	(\$0.26)	(\$0.24)	(\$0.21)	(\$0.24)	(\$0.95)	(\$0.22)	(\$0.15)	(\$0.14)	(\$0.14)	(\$0.64)	(\$0.10)	(\$0.10)	(\$0.10)	(\$0.10)	(\$0.40)	(\$0.10)	(\$0.10)	(\$0.09)	(\$0.09)	(\$0.38)
<b>Margins</b>																				
Gross margin	16%	70%	65%	100%	55%	100%	100%	78%	80%	80%	75%	75%	75%	75%	75%	80%	80%	80%	80%	80%
Research & development	1073%	805%	1218%	16925%	1270%	20213%	16888%	1284%	830%	2035%	800%	552%	400%	250%	424%	175%	175%	140%	75%	129%
General & administrative	6162%	3130%	6023%	94963%	6316%	80013%	53775%	3536%	4373%	7476%	2400%	1800%	1400%	900%	1413%	850%	750%	600%	450%	618%
Operating margin	-7254%	-3889%	-7223%	-112488%	-7576%	-100813%	-71450%	-4804%	-5184%	-9533%	-3225%	-2344%	-1775%	-1108%	-1815%	-974%	-870%	-680%	-458%	-686%
Tax rate, GAAP	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Net margin	-7052%	-3722%	-6718%	-108075%	-7239%	-99563%	-73375%	-4734%	-5219%	-9535%	-3225%	-2344%	-1775%	-1108%	-1815%	-974%	-870%	-680%	-458%	-686%
<b>Y/Y % change</b>																				
Total Revenue						-93%	-96%	25%	1588%	-35%	2400%	3650%	196%	344%	424%	250%	167%	150%	150%	167%
Gross margin						-58%	-94%	50%	1250%	-5%	1775%	2713%	186%	317%	391%	273%	184%	167%	167%	184%
Research & development						-71%	-16%	28%	-35%	4%	-73%	3%	-3%	-6%	9%	-81%	14%	0%	-20%	-19%
General & administrative						-32%	-77%	-33%	11%	24%	-23%	-78%	13%	4%	-1%	-72%	1%	0%	13%	17%
Operating income (loss)						-44%	-6%	-29%	-17%	-22%	-18%	-20%	23%	9%	0%	6%	-1%	-4%	3%	1%
Net income (loss)						-39%	-4%	-24%	-12%	-19%	-15%	-19%	20%	11%	0%	6%	-1%	-4%	3%	1%
EPS Diluted (pro forma)						-49%	-16%	-38%	-32%	-42%	-33%	-56%	-30%	-27%	-33%	-38%	0%	-7%	-9%	-2%

Source: Company reports and Ascendant Capital Markets estimates.

### BioSig Technologies, Inc.

Balance Sheet (\$ mils)	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24
Fiscal Year End: December 31	Q1A	Q2A	Q3A	Q4A	Q1A	Q2A	Q3A	Q4A	Q1E	Q2E	Q3E	Q4E	Q1E	Q2E	Q3E	Q4E
<b>Assets</b>																
Cash and cash equivalents	22.48	15.50	17.54	11.66	8.67	5.08	0.89	0.36	1.88	(2.87)	(7.96)	(12.10)	(20.36)	(23.74)	(27.84)	(31.37)
Short term investments									0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Accounts receivable, net		0.20	0.10				0.01	0.01	0.02	0.03	0.04	0.07	0.08	0.09	0.11	0.17
Inventory	0.65	0.73	1.88	1.88	2.03	2.03	1.69	0.34	1.60	1.50	1.60	1.80	5.60	4.00	4.00	4.50
Deferred income taxes									0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prepaid expenses and other	0.21	0.52	0.48	0.35	0.31	0.63	0.51	0.43	0.07	0.11	0.15	0.22	0.26	0.30	0.37	0.56
Total current assets	23.33	16.95	20.00	13.89	11.00	7.74	3.09	1.13	3.57	(1.23)	(6.16)	(10.02)	(14.42)	(19.36)	(23.36)	(26.15)
Property and equipment, net	0.38	0.39	0.56	0.65	0.66	0.60	0.69	0.67	0.62	0.57	0.64	0.59	0.55	0.62	0.57	0.79
Leases	0.36	0.25	0.69	0.60	0.52	0.90	0.89	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Intangibles, net	0.34	0.34	0.33	0.33	0.32	0.32	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Deferred income tax									0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.10	0.10	0.09	0.04	0.04	0.04	0.04	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19
Total assets	24.52	18.03	21.67	15.52	12.54	9.59	5.02	4.11	6.51	1.66	(3.21)	(7.11)	(11.55)	(16.43)	(20.48)	(23.04)
<b>Liabilities and stockholders' equity</b>																
Accounts payable	3.46	3.03	2.17	2.18	2.34	1.45	2.09	2.85	1.00	1.50	2.00	3.00	3.50	4.00	5.00	7.50
Accrued expenses	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.08	0.06	0.08	0.12	0.28	0.16	0.20	0.30
Deferred revenue	0.03	0.03	0.03	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Deferred income tax									0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Warrant liabilities									0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Leases	0.33	0.25	0.29	0.28	0.25	0.34	0.35	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Other									2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Short term debt									0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total current liabilities	3.90	3.38	2.57	2.58	2.71	1.90	2.54	3.26	3.40	3.88	4.40	5.44	6.10	6.48	7.52	10.12
Deferred income taxes									0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Warrant liabilities									0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other long term liabilities									0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Leases	0.03	0.00	0.41	0.37	0.32	0.61	0.54	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Deferred revenue	0.03	0.02	0.01	0.01			0.01		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Minority interest	0.58	0.37	0.44	0.22	0.02	0.12		(0.02)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Long term debt									0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total other liabilities	0.64	0.40	0.86	0.60	0.33	0.73	0.55	0.43	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Preferred stock	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Common stock	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.06	1.76	3.47	5.18	6.89	8.60	10.31	12.02	13.73
Additional paid-in capital	185.17	187.14	198.38	201.13	206.24	209.46	210.79	216.23	216.23	216.23	216.23	216.23	216.23	216.23	216.23	216.23
Retained earnings	(165.32)	(173.03)	(180.28)	(188.92)	(196.89)	(202.64)	(209.02)	(215.97)	(222.42)	(229.46)	(236.56)	(243.21)	(250.02)	(256.98)	(263.78)	(270.66)
Other									5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
Accumulated other comprehensive income									1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total stockholders' equity	19.98	14.25	18.24	12.35	9.50	6.96	1.93	0.42	2.66	(2.67)	(8.06)	(13.00)	(18.10)	(23.36)	(28.45)	(33.61)
Total stockholders' equity and liabilities	24.52	18.03	21.67	15.52	12.54	9.59	5.02	4.11	6.51	1.66	(3.21)	(7.11)	(11.55)	(16.43)	(20.48)	(23.04)

### Balance Sheet Drivers

	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24
	Q1A	Q2A	Q3A	Q4A	Q1A	Q2A	Q3A	Q4A	Q1E	Q2E	Q3E	Q4E	Q1E	Q2E	Q3E	Q4E
Prepaid as % of total rev	177%	249%	447%	4425%	3888%	7913%	375%	316%	37%	37%	37%	37%	37%	37%	37%	37%
Inventory as % of total rev	551%	353%	1742%	23513%	25325%	25325%	1253%	249%	800%	500%	400%	300%	800%	500%	400%	300%
A/P as % of total rev	2931%	1462%	2008%	27238%	29300%	18138%	1550%	2113%	500%	500%	500%	500%	500%	500%	500%	500%
Accrued exp related as % of total rev	64%	37%	73%	1025%	1050%	1075%	66%	67%	40%	20%	20%	20%	40%	20%	20%	20%
<b>Activity Ratios</b>																
A/R Days Sales Outstanding		0	87	83	0	0	3	6	10	10	10	10	10	10	10	10
<b>Book &amp; Cash Value (per share)</b>																
Book Value per Share (diluted)	\$0.63	\$0.44	\$0.52	\$0.35	\$0.26	\$0.17	\$0.04	\$0.01	\$0.04	-\$0.04	-\$0.12	-\$0.19	-\$0.26	-\$0.32	-\$0.39	-\$0.45
Cash per Share (diluted)	\$0.71	\$0.48	\$0.50	\$0.33	\$0.24	\$0.13	\$0.02	\$0.01	\$0.03	-\$0.04	-\$0.12	-\$0.17	-\$0.29	-\$0.33	-\$0.38	-\$0.42
Net cash per Share (diluted)	\$0.71	\$0.48	\$0.50	\$0.33	\$0.24	\$0.13	\$0.02	\$0.01	\$0.03	-\$0.04	-\$0.12	-\$0.17	-\$0.29	-\$0.33	-\$0.38	-\$0.42

Source: Company reports and Ascendant Capital Markets estimates

**BioSig Technologies, Inc.**

Cash Flow Statement (\$ mils)	Mar-21	Jun-21	Sep-21	Dec-21	2021	Mar-22	Jun-22	Sep-22	Dec-22	2022	Mar-23	Jun-23	Sep-23	Dec-23	2023	Mar-24	Jun-24	Sep-24	Dec-24	2024
Fiscal Year End: December 31	Q1A	Q2A	Q3A	Q4A	FY-A	Q1A	Q2A	Q3A	Q4A	FY-A	Q1E	Q2E	Q3E	Q4E	FY-E	Q1E	Q2E	Q3E	Q4E	FY-E
<b>Cash flow from operating activities</b>																				
Net income	(8.56)	(8.05)	(7.25)	(9.00)	(32.86)	(8.07)	(5.72)	(6.49)	(7.00)	(27.26)	(6.45)	(7.03)	(7.10)	(6.65)	(27.23)	(6.82)	(6.96)	(6.80)	(6.88)	(27.45)
Depreciation	0.04	0.05	0.05	0.06	0.20	0.06	0.07	0.08	0.08	0.29	0.10	0.10	0.10	0.10	0.40	0.10	0.10	0.10	0.10	0.40
Amortization					0.00					0.00					0.00					0.00
Non-cash lease expense	0.11	0.12	0.10	0.11	0.44	0.09	0.08	0.08	(0.24)	0.00					0.00					0.00
Debt related amortization expense					0.00					0.00					0.00					0.00
Stock comp	2.52	1.79	2.30	2.89	9.50	2.00	0.17	0.54	1.71	4.41	1.71	1.71	1.71	1.71	6.84	1.71	1.71	1.71	1.71	6.84
Deferred income taxes					0.00					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Change in fair value of warrant liability		0.32			0.32	0.02				0.02					0.00	0.00	0.00	0.00	0.00	0.00
Writedowns and impairments					0.00					0.00					0.00					0.00
Other gains/losses			(0.55)		(0.55)					0.00					0.00					0.00
Other					0.00				0.37	0.37					0.00					0.00
Changes in operating assets and liabilities:																				
Accounts receivable		(0.20)	0.10	0.10	0.00			(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.06)	(0.01)	(0.01)	(0.02)	(0.06)	(0.10)
Inventory	0.12	(0.08)	(1.15)	(0.00)	(1.11)	(0.15)		0.22	0.21	0.28	(1.26)	0.10	(0.10)	(0.20)	(1.46)	(3.80)	1.60	0.00	(0.50)	(2.70)
Prepaid expenses & other curre	0.10	(0.31)	0.04	0.18	0.01	0.04	(0.32)	0.06	0.03	(0.19)	0.35	(0.04)	(0.04)	(0.07)	0.20	(0.04)	(0.04)	(0.07)	(0.19)	(0.33)
Income tax					0.00					0.00					0.00					0.00
Other assets					0.00					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Accounts payable	(1.26)	(0.43)	(0.31)	0.01	(1.99)	0.17	(0.90)	0.64	0.86	0.78	(1.85)	0.50	0.50	1.00	0.15	0.50	0.50	1.00	2.50	4.50
Accrued expenses					0.00					0.00	(0.01)	(0.02)	0.02	0.04	0.03	0.16	(0.12)	0.04	0.10	0.18
Deferred revenue	0.06	(0.01)	(0.01)	(0.01)	0.04	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)					0.00					0.00
Other liabilities	(0.12)	(0.13)	(0.09)	(0.06)	(0.40)	(0.09)	(0.08)	(0.07)	(0.13)	(0.37)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Net cash (used in) provided by</b>	<b>(6.99)</b>	<b>(6.92)</b>	<b>(6.76)</b>	<b>(5.73)</b>	<b>(26.40)</b>	<b>(5.94)</b>	<b>(6.70)</b>	<b>(4.95)</b>	<b>(4.11)</b>	<b>(21.71)</b>	<b>(7.43)</b>	<b>(4.69)</b>	<b>(4.92)</b>	<b>(4.10)</b>	<b>(21.14)</b>	<b>(8.19)</b>	<b>(3.22)</b>	<b>(4.05)</b>	<b>(3.21)</b>	<b>(18.67)</b>
<b>Cash flow from investing activities</b>																				
Purchases of property and equi	(0.13)	(0.05)	(0.22)	(0.14)	(0.54)	(0.06)	(0.01)	(0.05)	(0.06)	(0.17)	(0.05)	(0.06)	(0.17)	(0.05)	(0.33)	(0.06)	(0.17)	(0.05)	(0.33)	(0.60)
Purchases of short-term investments					0.00					0.00					0.00					0.00
Acquisitions					0.00					0.00					0.00					0.00
Other					0.00					0.00	2.00				2.00					0.00
<b>Net cash used in investing acti</b>	<b>(0.13)</b>	<b>(0.05)</b>	<b>(0.22)</b>	<b>(0.14)</b>	<b>(0.54)</b>	<b>(0.06)</b>	<b>(0.01)</b>	<b>(0.05)</b>	<b>(0.06)</b>	<b>(0.17)</b>	<b>1.95</b>	<b>(0.06)</b>	<b>(0.17)</b>	<b>(0.05)</b>	<b>1.67</b>	<b>(0.06)</b>	<b>(0.17)</b>	<b>(0.05)</b>	<b>(0.33)</b>	<b>(0.60)</b>
<b>Cash flow from financing activities</b>																				
Issuance of debt					0.00					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Repayment of debt					0.00					0.00					0.00					0.00
Issuance of stock	1.30		9.01	(0.00)	10.30	3.00	3.12	0.81	3.42	10.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proceeds from stock option exe	0.03				0.03				0.22	0.22					0.00					0.00
Other					0.00					0.00	7.00				7.00					0.00
Dividends and distributions					0.00					0.00					0.00					0.00
<b>Cash provided by (used in) fina</b>	<b>1.33</b>	<b>0.00</b>	<b>9.01</b>	<b>(0.00)</b>	<b>10.33</b>	<b>3.00</b>	<b>3.12</b>	<b>0.81</b>	<b>3.64</b>	<b>10.57</b>	<b>7.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>7.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Effect of exchange rate on cash					0.00					0.00					0.00					0.00
<b>Net increase (decrease) in cash</b>	<b>(5.79)</b>	<b>(6.97)</b>	<b>2.03</b>	<b>(5.88)</b>	<b>(16.61)</b>	<b>(2.99)</b>	<b>(3.59)</b>	<b>(4.19)</b>	<b>(0.53)</b>	<b>(11.30)</b>	<b>1.52</b>	<b>(4.75)</b>	<b>(5.09)</b>	<b>(4.15)</b>	<b>(12.46)</b>	<b>(8.25)</b>	<b>(3.39)</b>	<b>(4.10)</b>	<b>(3.53)</b>	<b>(19.27)</b>
<b>Beginning cash and equivalents</b>	<b>28.27</b>	<b>22.48</b>	<b>15.50</b>	<b>17.54</b>	<b>28.27</b>	<b>11.66</b>	<b>8.67</b>	<b>5.08</b>	<b>0.89</b>	<b>11.66</b>	<b>0.36</b>	<b>1.88</b>	<b>(2.87)</b>	<b>(7.96)</b>	<b>0.36</b>	<b>(12.10)</b>	<b>(20.36)</b>	<b>(23.74)</b>	<b>(27.84)</b>	<b>(12.10)</b>
<b>Ending cash and equivalents</b>	<b>22.48</b>	<b>15.50</b>	<b>17.54</b>	<b>11.66</b>	<b>11.66</b>	<b>8.67</b>	<b>5.08</b>	<b>0.89</b>	<b>0.36</b>	<b>0.36</b>	<b>1.88</b>	<b>(2.87)</b>	<b>(7.96)</b>	<b>(12.10)</b>	<b>(12.10)</b>	<b>(20.36)</b>	<b>(23.74)</b>	<b>(27.84)</b>	<b>(31.37)</b>	<b>(31.37)</b>

Source: Company reports and Ascendant Capital Markets estimates

## **ANALYST CERTIFICATION**

Each analyst hereby certifies that the views expressed in this report reflect the analyst's personal views about the subject securities or issuers. Each analyst also certifies that no part of the analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed in this report. The analyst who prepared this report is compensated based upon the overall profitability of Ascendant Capital Markets, LLC, which may, from time to time, include the provision of investment banking, financial advisory and consulting services. Compensation for research is based on effectiveness in generating new ideas for clients, performance of recommendations, accuracy of earnings estimates, and service to clients.

## **BioSig Technologies, Inc.**

- Ascendant Capital Markets, LLC has not received compensation for advisory or investment banking services from the company in the past 12 months.

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Risks to attainment of our share price target include balance sheet/liquidity risks, ability to commercialize product, failure of product candidates to demonstrate safety and efficacy in clinical trials, failure to gain or maintain regulatory approvals, failure to obtain suitable reimbursement, competition, changing macroeconomic factors, investor sentiment for investing in biotech/medtech stocks, and changes in consumer or government priorities for healthcare.

## **Ascendant Capital Markets, LLC Rating System**

**BUY:** We expect the stock to provide a total return of 15% or more within a 12-month period.

**HOLD:** We expect the stock to provide a total return of negative 15% to positive 15% within a 12-month period.

**SELL:** We expect the stock to have a negative total return of more than 15% within a 12-month period.

Total return is defined as price appreciation plus dividend yield.

#### Ascendant Capital Markets, LLC Distribution of Investment Ratings (as of January 15, 2023)

Rating	Count	Percent	Investment Banking Services Past 12 months	
			Count	Percent
Buy	44	98%	18	41%
Hold	0	0%	0	0%
Sell	1	2%	0	0%
Total	45	100%	18	40%

#### Other Important Disclosures

Our analysts use various valuation methodologies including discounted cash flow, price/earnings (P/E), enterprise value/EBITDAS, and P/E to growth rate, among others. Risks to our price targets include failure to achieve financial results, product risk, regulatory risk, general market conditions, and the risk of a change in economic conditions.

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