United States
Healthcare

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BioSig Technologies, Inc.

Initiating Coverage with BUY and $5.00 Target

Large market opportunities for its PURE EP system for cardiac arrhythmia. We believe strong growth over the next year to drive stock higher.

COVERAGE INITIATION

Rating: BUY

Ticker: BSGM

Price: $1.35

Target: $5.00

Initiating with BUY: We are initiating coverage of BioSig Technologies with a BUY rating and a 12-month price target of $5.00. BioSig is a medical technology company focused on improving the standard of care in electrophysiology (EP).

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.

Targeting heart disease: In the U.S., heart disease is the leading cause of death for men, women, and people of most racial and ethnic groups, contributing to about 20 - 25% of deaths in the U.S. every year. Every 40 seconds, someone in the U.S. has a heart attack. Arrhythmia is a leading condition and contributing cause for heart disease.

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. The rapidly growing EP market is projected to reach $16 billion by 2028 (+11.2% annual growth rate).

However, challenges exist: BioSig operates in a highly competitive environment and competes against a wide range of other technologies. There is the chance that competing technologies may challenge BioSig technologies or that existing standard of care methods remains the industry standard.

Positive high risks versus high rewards: Overall, concerns outweighed by growth prospects and valuation. 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 calculate a 12-month price target for shares of BioSig to be $5.00 based on a NPV analysis, representing significant upside from the current share price. We believe this valuation appropriately balances out the company's high risks with its high growth prospects and 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 – 1.73
Shares Outstanding (million):	59
Market cap ($million):	$80
EV ($million):	$79
Debt ($million):	$0
Cash ($million):	$1
Avg. Daily Trading Vol. ($million):	$1
Float (million shares):	44
Short Interest (million shares):	1
Dividend, annual (yield):	$0 (NA%)

Revenues (US$ million)

	2021A (Cur.)	2022E (Cur.)	2023E (Cur.)
Q1 Mar	0.1A	0.0A	0.2E
Q2 Jun	0.2A	0.0A	0.3E
Q3 Sep	0.1A	0.1A	0.4E
Q4 Dec	0.0A	0.2E	0.5E
Total	**0.4A**	**0.3E**	**1.4E**
EV/Revs	198x	263x	56x

Earnings per Share (pro forma)

	2021A (Cur.)	2022E (Cur.)	2023E (Cur.)
Q1 Mar	(0.26)A	(0.22)A	(0.11)E
Q2 Jun	(0.24)A	(0.15)A	(0.12)E
Q3 Sep	(0.21)A	(0.14)A	(0.12)E
Q4 Dec	(0.24)A	(0.13)E	(0.12)E
Total	**(0.95)A**	**(0.62)E**	**(0.47)E**
P/E	N/A	N/A	N/A

Important Disclosures

Ascendiant 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 31.

Exhibit 1: BioSig Technologies, Inc. Stock Price (5-Years)

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

INVESTMENT THESIS

We are initiating coverage of BioSig Technologies with a BUY rating and a 12-month price target of $5.00.

BioSig Technologies, Inc., based in Westport, CT, is a medical technology company focused on improving the standard of care in electrophysiology (EP). The company's advanced digital signal processing technology brings key information insights to the treatment of cardiovascular arrhythmias (irregularities in heartbeats). The company's main product is the PURE EP System whose enhanced signal acquisition, digital signal processing, and analysis provides key data used during ablation of cardiac arrhythmias.

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. 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.

Exhibit 2: BioSig Technologies Corporate Overview

BioSig technologies

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.

BioSig technologies

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 3: BioSig Investment Highlights

Source: Company reports.

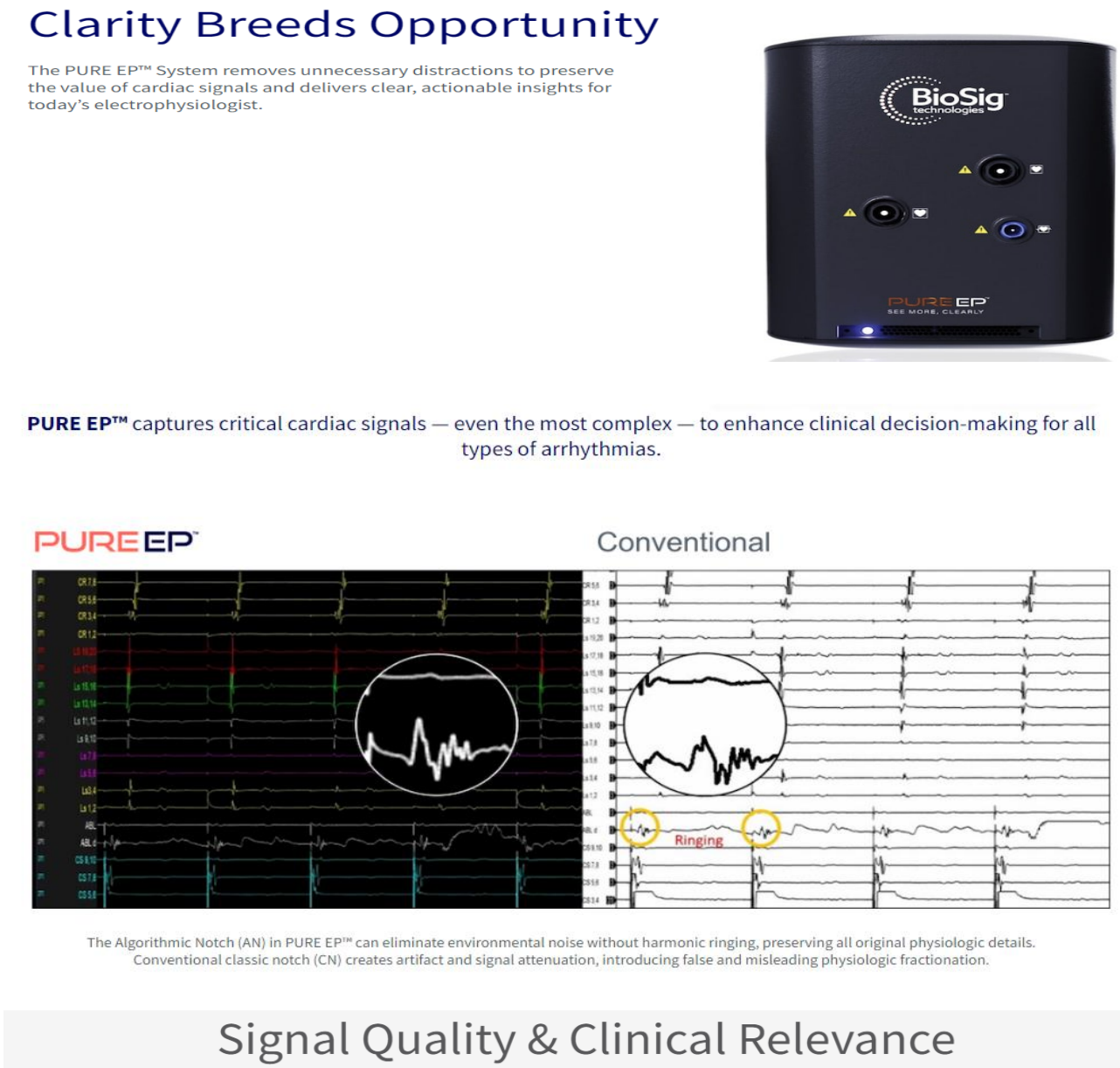
The PURE EP System is a FDA 510(k) cleared (in August 2018) non-invasive class II device. PURE EP addresses known challenges associated to signal acquisition, to enable electrophysiologists (cardiologists who focuses on testing and treating problems involving arrhythmias) to see more signals and analyze them in real-time.

PURE EP's features should 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).

In the U.S., heart disease is the leading cause of death for men, women, and people of most racial and ethnic groups, contributing to about 20 - 25% of deaths in the U.S. every year. Every 40 seconds, someone in the U.S. has a heart attack. Arrhythmia is a leading condition and contributing cause for heart disease.

Cardiac catheter ablation is an operation procedure that involves delivery of energy through the tip of a catheter (a flexible tube inserted through a narrow opening into a body cavity) that scars or destroys heart tissue to correct heart rhythm disturbances (arrhythmias). Catheter ablation is performed by an electrophysiologist (a specially trained cardiologist) in a specialized room in an EP lab. 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. According to Global Market Insights, the global cardiac ablation market value is projected to exceed $8.4 billion by 2028. In addition, the rapidly growing electrophysiology (EP) market is projected to reach $16 billion by 2028 (+11.2% annual growth rate).

Exhibit 4: BioSig's PURE EP System



Source: Company reports.

BioSig's recent financial performance is reflective of its early commercialization stage. In its Q3 2022 report (on November 14, 2022), the company reported revenues of $0.1 million and net loss was $6.4 million (EPS of $(0.14)). Although revenues are still relatively minimal, we believe revenues should increase significantly in 2023. The company had a limited release in 2021 of its PURE EP system, but with full commercial launch in July 2022, we expect revenues to ramp up significantly going forward. BioSig currently has several major evaluation agreements with major hospitals (including the Cleveland Clinic) that we believe will translate into product revenue in 2023. We believe that the high revenue growth in 2023/24 should provide operating leverage and improve gross margins and operating income (loss).

We believe investors should be focused on its progress on its PURE EP product commercialization, which is growing fast and is expected to have continued high growth over the next several years. We believe that the biggest potential variable and challenge to our financial model is the ability of the company to successfully commercialize, develop, and grow its PURE EP business platforms. If the company can make significant progress towards these goals, then revenue and earnings will likely be able to grow significantly. However, if the company has difficulties in making progress towards these goals, then revenue growth and profitability may not be achieved or will likely grow at a low rate or even not at all.

The company's balance sheet has $1 million in cash and no debt as of September 2022. In Q4 (ending December 2022), the company raised ~$3.5 million selling stock (~$0.47/share). In the current Q1 (ending March 2023), the company has so far raised ~$4.1 million selling stock (~$0.73/share). We believe the company has enough cash through Q1 2023, but that it will likely need to raise capital soon (in Q2).

BioSig's share price has been weak (and highly volatile) in the past year. However, we note that recent share price YTD (since January 1, 2023) has been very strong +221% (from $0.42 on 12/30/22). We also note that M&A (mergers and acquisitions) in the medtech sector remains solid with high premiums and valuations given to companies with strong, innovative, or complementary products for major biotech and medtech companies.

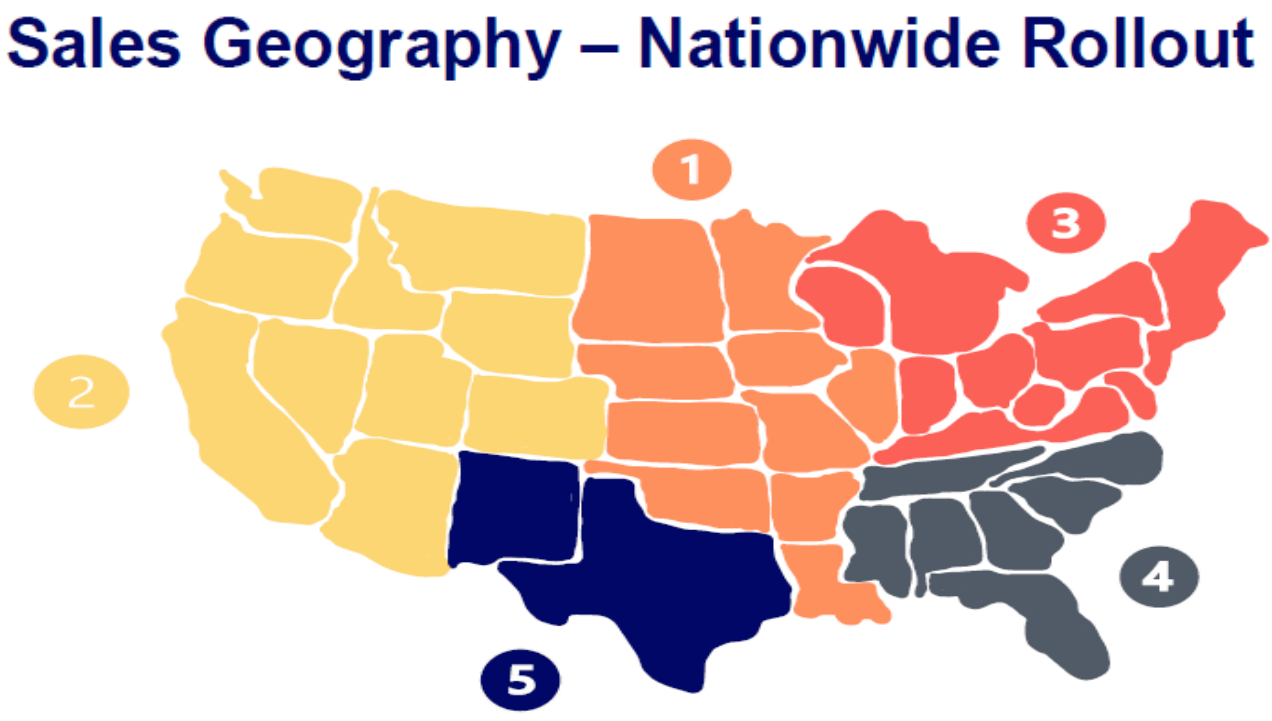
We believe that there are near term catalysts that can drive the stock (particularly for key milestones expected in 2023). As the company is likely to make significant progress (and revenue milestones) in its product commercialization over the next several years, we believe this will result in much improved visibility into future cash flows and higher share price. Although it is very likely that the company will have to keep raising capital to achieve its product commercialization and development goals, we believe that positive progress will make future financings accretive to current shareholders.

Our investment thesis factors in an uncertain product commercialization and growth prospects which is offset by the very large potential upside opportunities created from successful business execution of its financial and strategic plans. We believe that the current valuation for BioSig has already factored in many of its risks (principally successful commercialization and growth) but is under valuing its overall growth prospects and market opportunities, resulting in a positive risk versus reward scenario for an investment in BioSig.

We believe the current valuation is attractive.

Based on our expectations and assumptions and our NPV analysis, we calculate a 12-month price target for shares of BioSig to be $5.00, representing significant upside from current share price. We believe this valuation appropriately balances out the company's high risks with the company's high growth prospects and large upside opportunities. We acknowledge that BioSig is still at an early stage in its product commercialization, but we believe its high growth and key product development and commercialization milestones over the next year should be positive catalysts for the stock.

Exhibit 5: BioSig's Recent History and Future Growth Plans



Source: Company reports.

INVESTMENT RISKS

Growth and Commercialization Risks

BioSig's goal is to increase the operational and financial growth and profitability of its main EP (electrophysiology) business. The company will need to increase awareness to its target markets (cardiac electrophysiologist and major medical centers) and to demonstrate superiority (more effective, lower costs, and/or better technologies) of its technologies and services. The markets for medical technology software and hardware are characterized by high competition, frequent technological developments and innovations, new product and services, and evolving technology and medical industry standards. This will require BioSig to develop its technologies, services, expertise and reputation, and continue to improve the effectiveness and ease of use of its technologies and services. While the market opportunities are large, there are always significant risks to grow (add new customers) and commercialize products (grow or maintain revenue per customers). Like most health care products (drugs, devices, diagnostics, services), the company will also need to get suitable insurance and government reimbursements for its products.

Competition

BioSig operates in a highly competitive environment and competes against a wide range of other medical technology companies that are attempting to replicate or have better technologies and operations than the company's main EP product. Although BioSig believes that its products and services are superior to competing products and technologies and has limited direct competition, there are always the possibility of new entrants or difficulties with existing competition. In addition, BioSig will need to replace existing medical technologies and treatments being used currently as standards of care.

BioSig competes directly and indirectly with very large medical technology companies that are much larger, have greater resources, very large customer base, and proprietary technology; which could result in lower projected sales for BioSig and at higher costs, reduced margins, and lowered profitability for the company.

Technology Risks

Technologies are constantly changing and improving due to new technologies, changing business and consumer demands, or changes in government regulations. This requires a company like BioSig to constantly invest in its technology, products, and services. This is much more the case for BioSig since the company is relatively small and it is actively focused on medical software and hardware which has rapidly changing technologies. If BioSig is unable to keep its products innovative, effective, and useful, it may find its technologies and products obsolete.

Concentrated Products and Customers

The company is currently focused on its one main product (the PURE EP system). This product is aimed for cardiac electrophysiologist, hospitals, and other medical providers. While the company has a large and wide range of customers to target (since its customer base is still small), its current customer base is highly concentrated. In the 9-months ended Q3 2022, the company had two customers which accounted for 84% and 16% of revenues. All of its revenue is derived in the U.S. The company is very leveraged to the success or failure of its PURE EP system. If BioSig were to experience difficulties with development and commercialization of its EP products, then it may have a material negative impact on its business and financials as there are no meaningful products which can offset.

Economic Uncertainties

While healthcare costs tends to be less correlated with economic activity and income levels due to their nondiscretionary nature, major deterioration in economic conditions tends to result in an overall decline in consumer, enterprise, and government spending. This was demonstrated during the 2008 and 2009 Great Recession and global economic slowdown. While enterprise and consumer spending levels and economic conditions have rebounded since and have been strong the past several years, the global macroeconomic environment can change significantly quickly as was shown with the start of the pandemic in March 2020. Since then, due to huge government stimulus the U.S. economy has been very strong the past 2 years. However, recent macro slowdowns, high inflation, and disrupted supply chains have caused costs to soar, inventory and product input shortages, and unreliable lead

times. Further economic disruptions and weakness may result in depressed enterprise, consumer, and government spending levels; this may have a negative impact on BioSig and its customers.

Capital Markets Risks

We believe BioSig's cash position is tight and that it will need to raise money soon (likely by Q2). We believe that it will be at least several years before the company can be cash flow self-sufficient from operations. Many biopharmaceutical and medtech companies fund their operations from the sale of equity or debt capital until their products reach commercial success or until they sell off the commercial rights to other companies. Biopharmaceuticals ("biotechs"), medical technology companies ("medtech"), and early stage technology companies valuations tend to fluctuate widely, and they were very weak in 2022 (mainly due to a weak general stock market and larger weakness and volatility for small/microcap stocks), there is always the chance that market interests and valuations for companies in this industry to further decline significantly. Although the company has been successful raising cash so far in 2023 (~$4 million), the share price volatility in the past year (with a stock price range of $0.25 – 1.73) in BioSig share price may make capital raising much more difficult and expensive.

VALUATION

We are initiating coverage of BioSig Technologies with a BUY rating and a 12-month price target of $5.00, which is based on a NPV analysis. The company currently generates revenue (though minimal due to its early stage) but also significant losses as it invests to grow its businesses so traditional valuation metrics are not useful. We believe a more accurate valuation should take into consideration the potential future value of its businesses. We do acknowledge that this valuation is complex and requires a large number of forward assumptions that we have to estimate that may be imprecise and may vary significantly from actual results. This is particularly so for a company like BioSig which is still in early high growth phase with its main business.

However, we believe our assumptions are fair and provide a reasonable basis for our valuation analysis. Our analysis considers future estimated profits from its major business segment (based on estimated future revenue and profits, a probability rate of success, and discounted this back to a current value), currently focused on its PURE EP System. We apply a high discount rate and an average probability of success to capture the high uncertainties associated generally early stage companies. We then added up the values, made an assumption about future investments required and allocated the value based on current share count. Based on our NPV analysis, we arrived at our 12-month price target of $5.00, which we believe appropriately balances out the company's risks with its high growth prospects.

BioSig's share price has been weak (and highly volatile) in the past year. Since 12/31/21, BioSig's share price is –39% (was $2.23 on 12/31/21) to the current share price of $1.35 (as of 2/10/23). The share price has traded between $0.25 and $1.73 in the past year and $0.25 and $1.41 in the past 5 months (since October 1, 2022). We believe the share price weakness is due to general stock price weakness and volatility with small/microcap tech stocks in 2022 (Russell 2000 Index of small-cap U.S. stocks was -20% in 2022). However, we note that recent share price YTD (since January 1, 2023) has been very strong +221% (from $0.42 on 12/30/22).

We believe that there are near term catalysts that can drive the stock (particularly for key milestones expected in 2023). As the company is likely to make significant progress (and revenue milestones) in its product commercialization over the next several years, we believe this will result in much improved visibility into future cash flows and higher share price. Although it is very likely that the company will have to keep raising capital to achieve its product commercialization and development goals, we believe that positive progress will make future financings accretive to current shareholders.

Exhibit 6: BioSig Technologies, Inc. Stock Price (since July 1, 2022)

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

The company has raised ~$4 million so far in 2023 (current Q1), but we believe the company's cash position is tight and that it needs to raise money soon (likely by Q2) to fund its commercialization and growth plans and to achieve its strategic goals.

We expect valuations for BioSig to improve as visibility into cash flow generation becomes clearer, resulting in significant upside to the current share price. We want to note that investor's interest in biotechnology and medtech companies are still high (even with recent market pullbacks) with many companies in this area attributed high valuations due to the large market and growth opportunities. We also note that M&A (mergers and acquisitions) in the medtech sector remains solid with high premiums and valuations given to companies with strong, innovative, or complementary products for major biotech and medtech companies.

Exhibit 7: Company Valuation (DCF) (in millions)

Valuation of Business Segments (in millions)

Product	Calculated NPV	% of Success	Calculated NPV	Discount Rate	Estimated Annual Sales	% of Market Share	Market Potential per year
PURE EP System	$ 309	50%	$ 618	20%	$ 124	25%	$ 500
Total	**$ 309**						

Net cash	$ 1
Estimated additional investments (& debt) required	$ 15
Current Value for existing shareholders	$ 295
Shares Outstanding (mils)	59
Estimated Value per share	**$ 5.00**

Source: Ascendiant Capital Markets estimates

Exhibit 8: Med Tech Industry M&A

Med Tech M&A

M&A Analysis	Acquired	Value	Acquirer
Affera	2022	925.0	Medtronic
Baylis Medical Co., Inc	2021	1750.0	Medtronic
Farapulse	2021	387.0	Boston Scientific
EPD Solutions	2018	538.0	Boston Scientific
HeartWare International	2016	1019.9	PHILIPS
Topera Inc.	2014	250+	Medtronic
Endosense SA	2013	333.8	Abbott
Bard EP (C.R. Bard, Inc.)	2013	275.0	St. Jude Medical
Rhythmia Medical	2012	410.0	BD
			Boston Scientific

Recent Transaction

- Medtronic continuing to expand their cardiac ablation portfolio
- Gains Affera Prism 1 and Sphere-9 systems

Source: Company report.

COMPANY

BioSig Technologies, Inc., based in Westport, CT, is a medical technology company focused on improving the standard of care in electrophysiology (EP). The company's advanced digital signal processing technology brings key information insights to the treatment of cardiovascular arrhythmias (irregularities in heartbeats). The company's main product is the PURE EP System whose enhanced signal acquisition, digital signal processing, and analysis provides key data used during ablation of cardiac 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. 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.

BioSig was initially incorporated in February 2009 in Nevada and was re-incorporated in Delaware in 2011. In November 2018, the company formed a subsidiary NeuroClear Technologies, Inc. which was renamed to ViralClear Pharmaceuticals, Inc. in March 2020. ViralClear objective is to pursue additional applications of the PURE EP signal processing technology outside of cardiac electrophysiology. As of September 30, 2022, the company has a 69% majority interest in ViralClear and its overall impact on BioSig's results are currently minimal. As of March 30, 2022, BioSig had 50 employees.

Exhibit 9: BioSig Management Team

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.

Kenneth Londoner (age 53) has served as director since February 2009, as executive chairman since November 2013, and as CEO since July 2017. Mr. Londoner has served as the managing partner of Endicott Management Partners, LLC, a firm dedicated to assisting emerging growth companies in their corporate development since February 2010. From April 2007 to October 2009, he served as executive vice president – corporate business development and senior director of business development and, from November 2009 to December 2010, he served as a consultant to NewCardio, Inc., a medical device designer and developer. Mr. Londoner was an investment officer and co-manager of the Seligman Growth Fund, Seligman Capital Fund, and approximately $2 billion of pension assets at J & W Seligman & Co, Inc. in New York from 1991 to 1997. Mr. Londoner graduated from Lafayette College in 1989 with a degree in economics and finance and received his MBA from New York University's Leonard N. Stern School of Business in 1994.

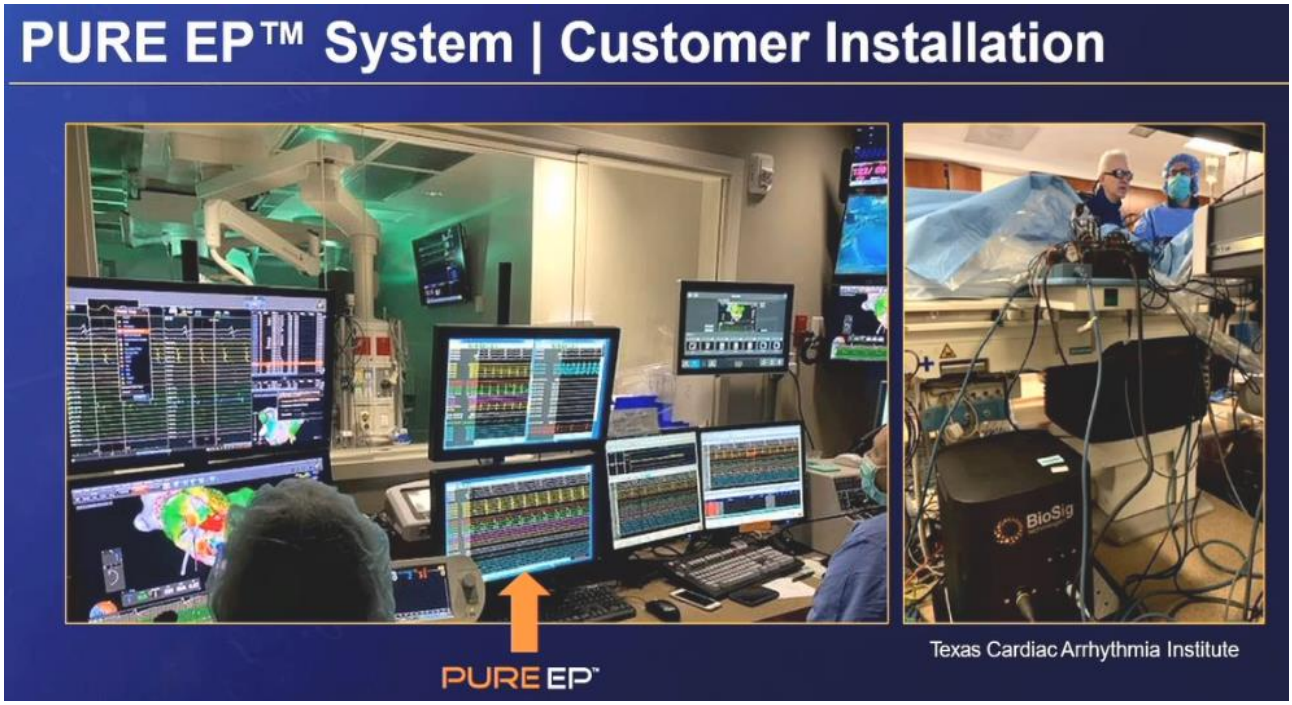
On February 7, 2023, the company announced the retirement of Steve Chaussy as Chief Financial Officer (he has been with BioSig since 2011). The company appointed Steve Buhaly (age 66) as the new CFO. Mr. Buhaly has over 15 years of CFO experience at three public U.S. companies. From 2007 to 2016, Mr. Buhaly was CFO at TriQuint Semiconductor, Inc. and continued to serve in that role following a merger with RF Micro Devices, Inc., which was then renamed as Qorvo Inc. Since retiring from Qorvo Inc. in mid-2016, he has worked as a freelance consultant and an angel investor. Mr. Buhaly holds a Bachelor of Science degree in Forest Engineering and a Master of Business Administration from University of Washington.

PRODUCT

BioSig is commercializing an advanced digital signal processing technology platform to deliver key data and information used in the treatment of cardiovascular arrhythmias (irregular heartbeats). Its main product 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). 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.

Exhibit 10: PURE EP System

The current PURE EP System



Source: Company reports.

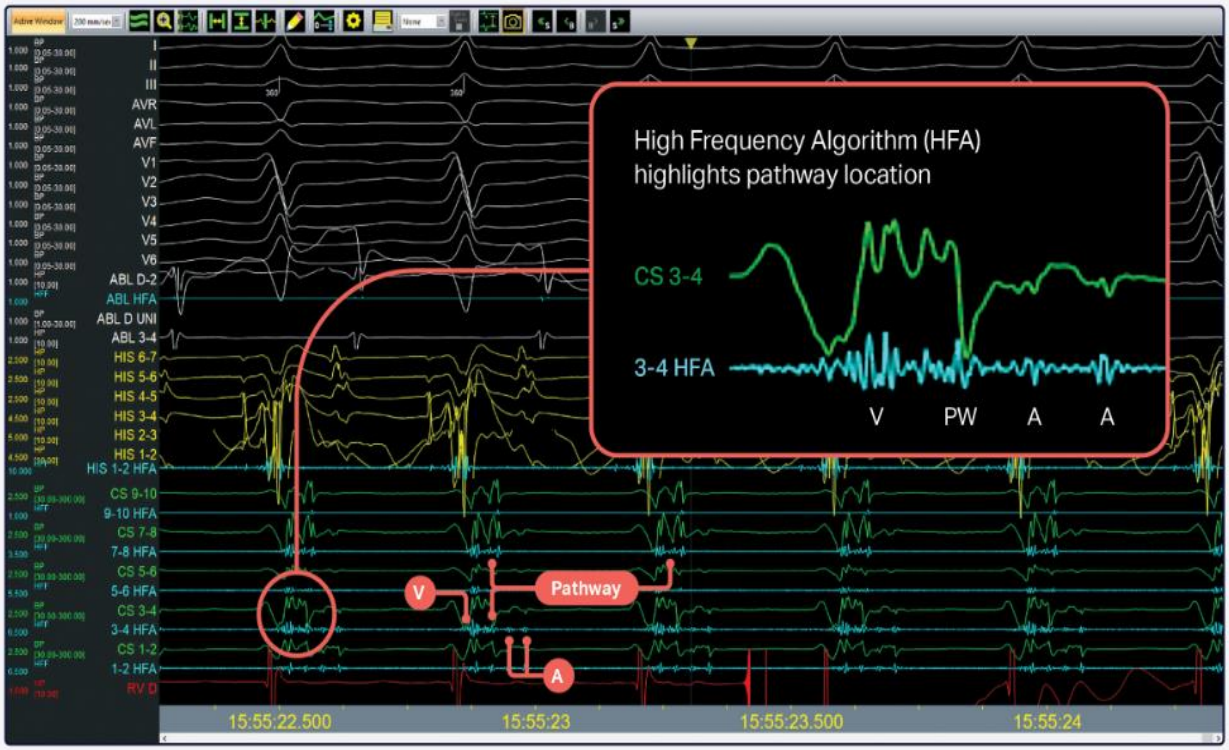
PURE EP is designed to address long-standing limitations that slow and disrupt cardiac catheter ablation procedures, such as environmental lab noise, signal saturation, slow signal recovery, and inaccurate display of fractionated potentials. The PURE EP aims to save time, costs, and lives.

The PURE EP System is a unique combination of low-noise, high-definition hardware and software that accurately captures cardiac signals and enables unlimited real-time analysis. PURE EP addresses known challenges associated to signal acquisition, to enable electrophysiologists (cardiologists who focuses on testing and treating problems involving arrhythmias) to see more signals and analyze them in real-time. The device aims to minimize noise and artifacts from cardiac recordings and acquire high-fidelity cardiac signals. Improving fidelity of acquired cardiac signals should increase the diagnostic value of these signals, thereby improving accuracy and efficiency of the EP studies and ablation procedures.

The PURE EP System is a FDA 510(k) cleared (in August 2018) non-invasive class II device with newly released software including its proprietary High Frequency Algorithm (HFA). HFA is a novel feature that identifies the key frequency components of cardiac data that can be difficult to identify within the traditional waveform presentation. The PURE EP System is intended to operate in conjunction with the existing EP lab equipment.

Exhibit 11: 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.

Clinical data acquired by the PURE EP System in a multi-center study at Texas Cardiac Arrhythmia Institute at St. David's Medical Center in Austin, Texas, Mayo Clinic in Jacksonville, Florida, and Massachusetts General Hospital in Boston, Massachusetts was published in September 2021 in the Journal of Cardiovascular Electrophysiology. Study results showed 93% consensus across the blinded reviewers with a 75% overall improvement in intracardiac signal quality and confidence in interpreting PURE EP signals over conventional sources. AF accounted for over 40% of enrollments.

PURE EP's features should 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).

In the U.S., heart disease is the leading cause of death for men, women, and people of most racial and ethnic groups, contributing to about 20 - 25% of deaths in the U.S. every year. Every 40 seconds, someone in the U.S. has a heart attack. Arrhythmia is a leading condition and contributing cause for heart disease.

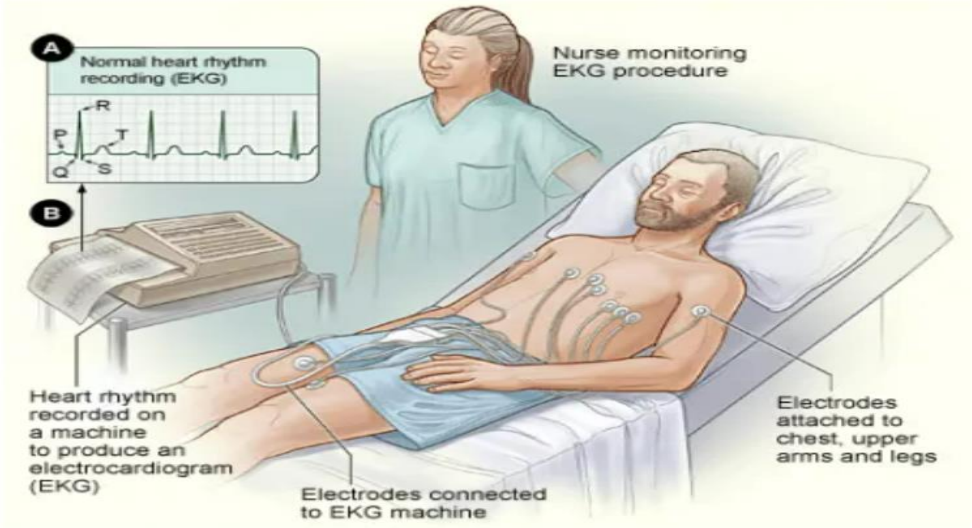
There are several types of heart arrhythmia (abnormal heart rhythm) that a cardiac electrophysiologist can diagnose and treat, including:

- Atrial fibrillation (AF or Afib) – an irregular (too fast/slow/irregular) rhythm in the upper chambers of the heart.
- Bradycardia - a slow heartbeat, less than 60 beats per minute.
- Tachycardia - a fast heartbeat, more than 100 beats per minute.
- Ventricular tachycardia - a fast rhythm in the lower chamber of the heart.
- Supraventricular tachycardia - a very fast heartbeat in the top chambers of the heart.
- Long QT syndrome - a condition that can cause sudden arrhythmias.
- Other arrhythmias - heartbeat changes due to pregnancy, medication interactions, or other reasons

Common tests for arrhythmia include:

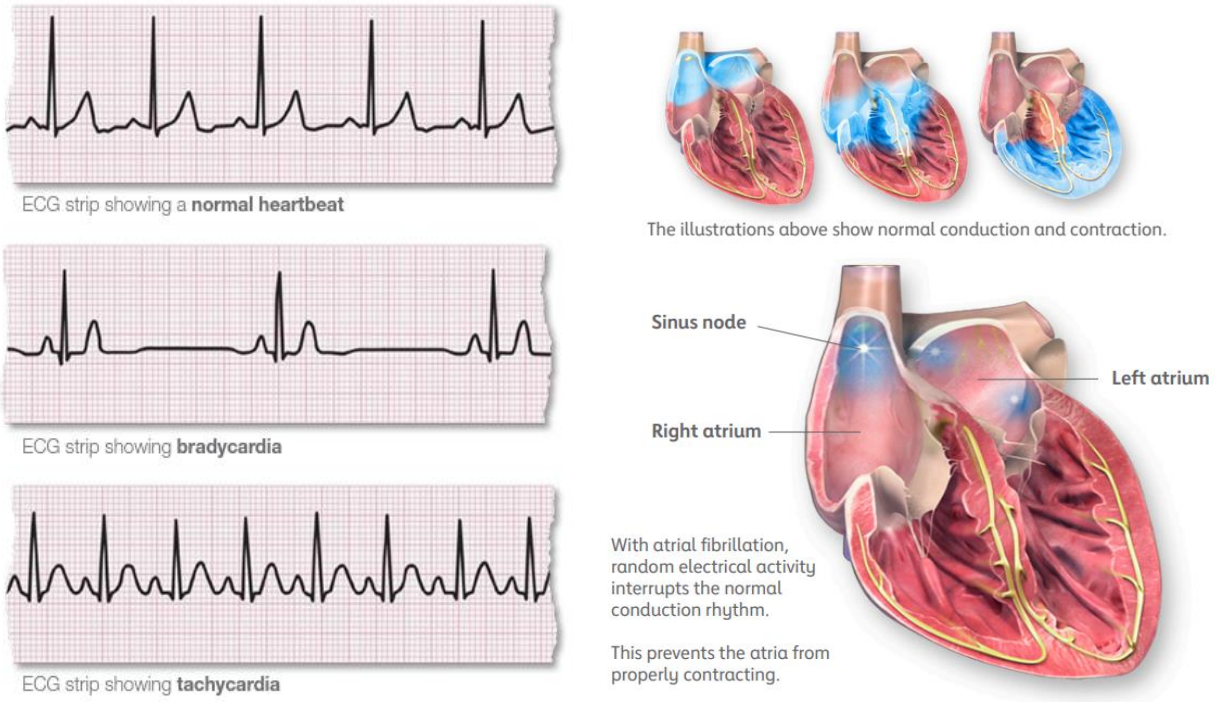
- Electrocardiogram (EKG or ECG) – a non-invasive and common diagnostic test to determine rhythm and electrical problems of the heart.
- Electrogram – similar to an EKG/ECG. When electrical recordings are made from the skin, it is considered to be an ECG. However, electrical recordings made from within the heart such as with an artificial cardiac pacemaker or during an electrophysiology study, the signals recorded are considered an "electrogram" instead of an ECG.
- Echocardiogram - this is like a sonogram/ultrasound for your heart, so the doctor can watch it beating.
- Treadmill test - this allows doctors to monitor how your heart performs during exercise.
- Tilt-table test - this is to see how your heart responds to sudden changes of position.
- Portable heart monitor - this lets your doctor see how your heart beats as you go about your daily life.
- Electrophysiology study - in this test, the doctor inserts a catheter into a blood vessel to track your heart's electrical activity.

Exhibit 12: Electrocardiogram (EKG/ECG) Test



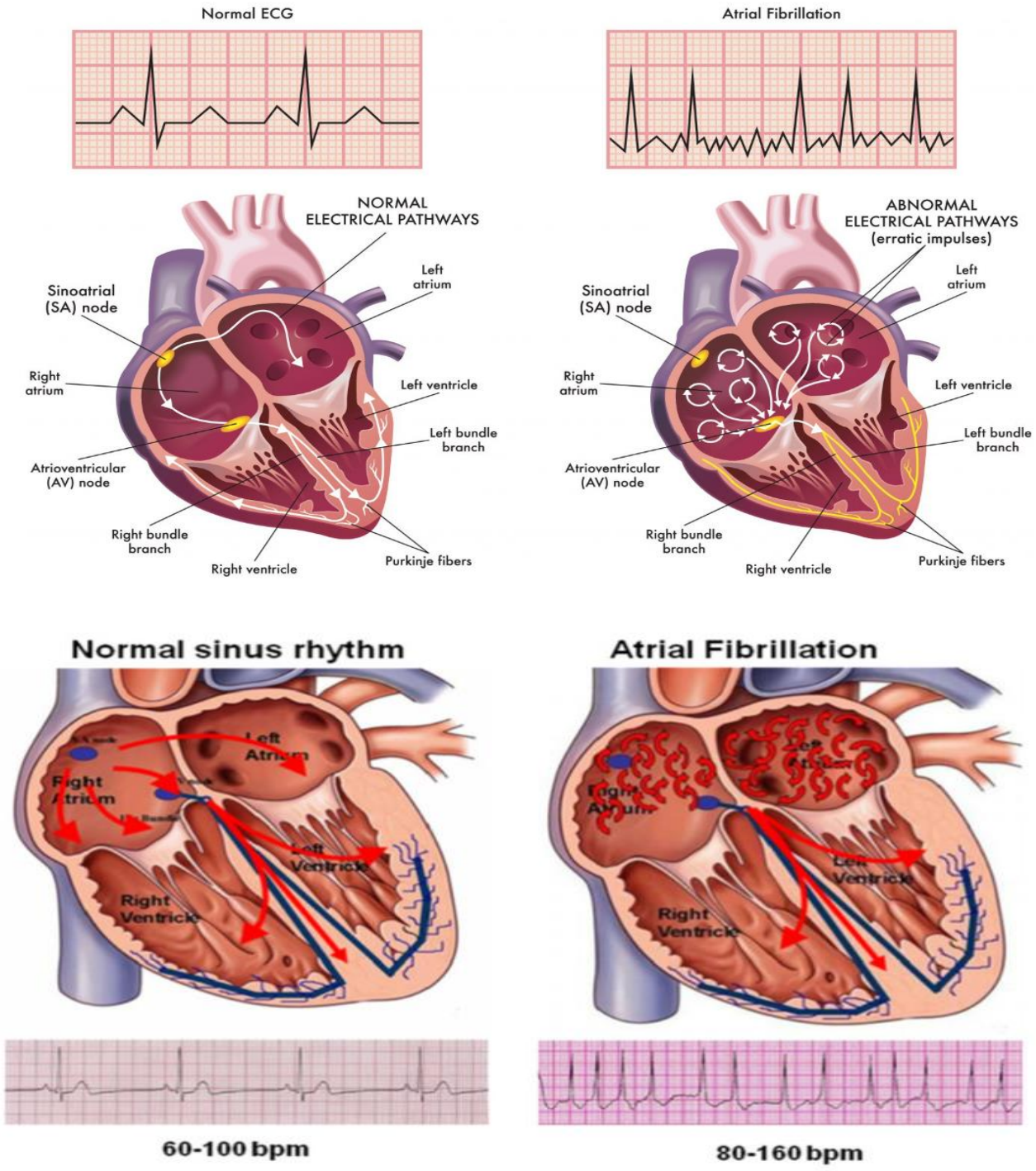
Source: https://difference.guru/

Exhibit 13: Electrocardiogram (EKG/ECG) and the Heart



Source: American Heart Association

Exhibit 14: Electrocardiogram (EKG/ECG) and Atrial Fibrillation



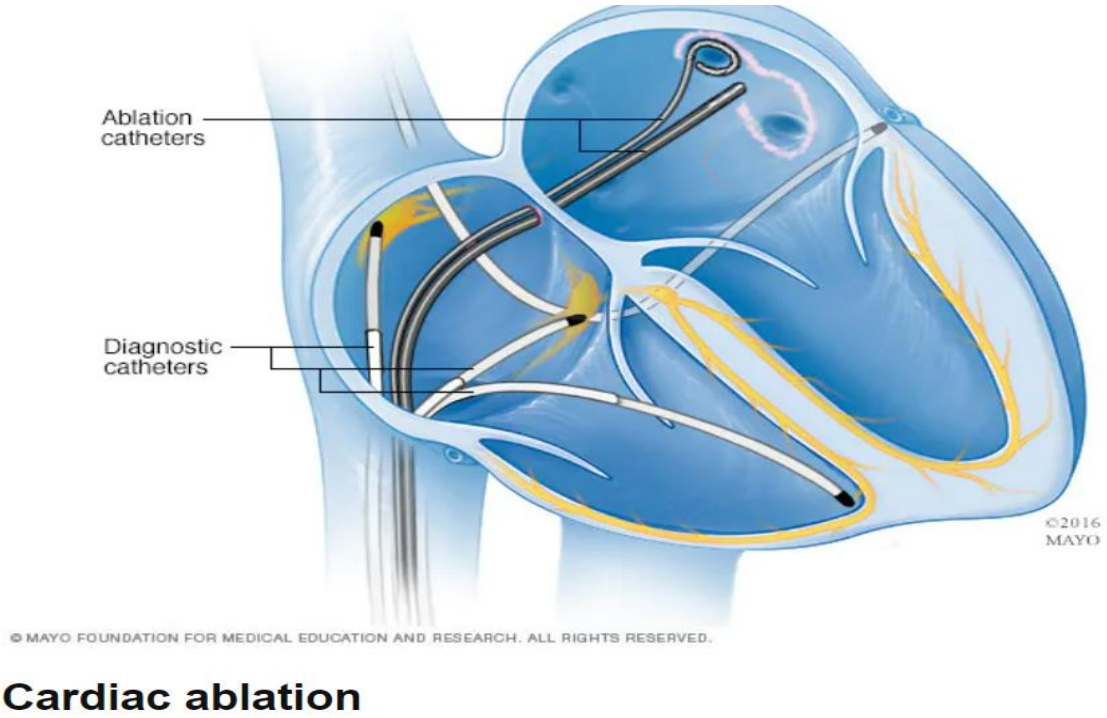
Source: https://www.stopafib.org/, https://jamesknellermd.com/

Cardiac catheter ablation is an operation procedure that involves delivery of energy through the tip of a catheter (a flexible tube inserted through a narrow opening into a body cavity) that scars or destroys heart tissue to correct heart rhythm disturbances (arrhythmias). Catheter ablation is performed by an electrophysiologist (a specially trained cardiologist) in a specialized room in an EP lab. 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, each typically with an EP recording system costing an average of $160,000. According to Global Market Insights, the global cardiac ablation market value is projected to exceed $8.4 billion by 2028. The growing geriatric population is more susceptible to cardiovascular diseases and is expected to contribute to the increasing numbers of ablation. In addition, the rapidly growing electrophysiology (EP) market is projected to reach $16 billion by 2028 (+11.2% annual growth rate).

PURE EP's focus is on improving intracardiac signal acquisition and enhancing diagnostic information for catheter ablation procedures for complex arrhythmias like ventricular tachycardia (VT), a potentially life-threatening arrhythmia, and atrial fibrillation (AF), the most common cardiac arrhythmia associated with a fivefold risk of stroke.

Pharmacological, or medicine-based, therapies have traditionally been used as initial treatments for cardiac arrhythmias, but they often fail to adequately control the arrhythmia and may have significant side effects. Catheter ablation is now often recommended for an arrhythmia that medicine cannot control. Catheter ablation involves advancing several flexible catheters into the patient's blood vessels, usually either in the femoral vein, internal jugular vein or subclavian vein. The catheters are then advanced towards the heart. Electrical impulses are then used to induce the arrhythmia and local heating or freezing is used to ablate (destroy) the abnormal tissue that is causing it. Catheter ablation for most simple arrhythmias has a high success rate. For patients with complex arrhythmias like AF and VT, it is often necessary to perform multiple procedures to achieve success.

Exhibit 15: Cardiac Ablation

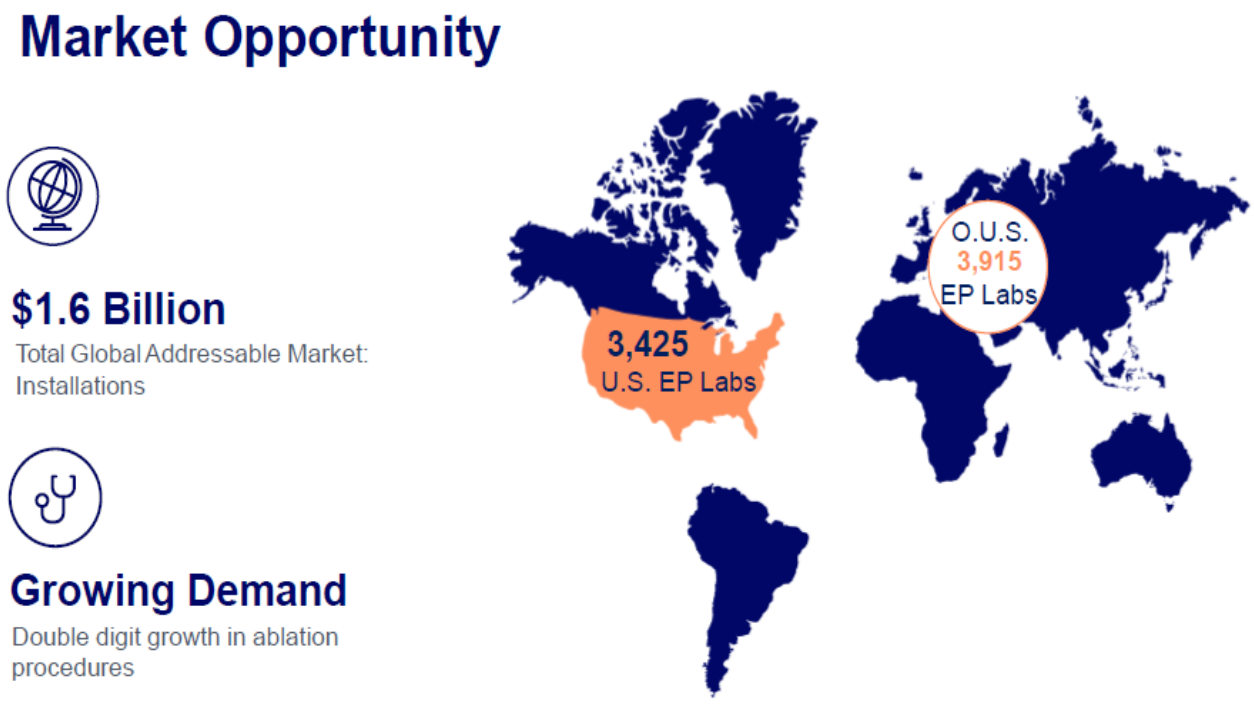


Source: https://www.mayoclinic.org/

According to the World Health Organization (WHO), the number of individuals aged 65 years and over in the world is projected to increase from 524 million in 2010 to 1.5 billion by 2050. Aging typically leads to changes and deterioration in the heart and blood vessels, which result in an increased risk of cardiac disorders. Accordingly, as cardiac ablation is a safe and highly effective treatment for irregular heart rhythm, an aging population will drive increased demand for cardiac catheter ablation and thus the PURE EP system (which is used to assist in the procedures) in the future.

Accurate recording of electrograms (a more sophisticated EKG) is critical to efficient mapping and ablation of complex arrhythmias. Clearer recordings and the very small amplitude of intracardiac signals--high frequency, small amplitude components in midst of large physiologic signals; signals important to characterize critical substrate, such as fractionated atrial and ventricular electrograms; and high-frequency, low-amplitude signals such as the Purkinje potentials—provided by the PURE EP System should improve outcomes during EP studies and ablation procedures for a variety of arrhythmias.

Exhibit 16: Global EP Market Opportunities



Source: Company reports.

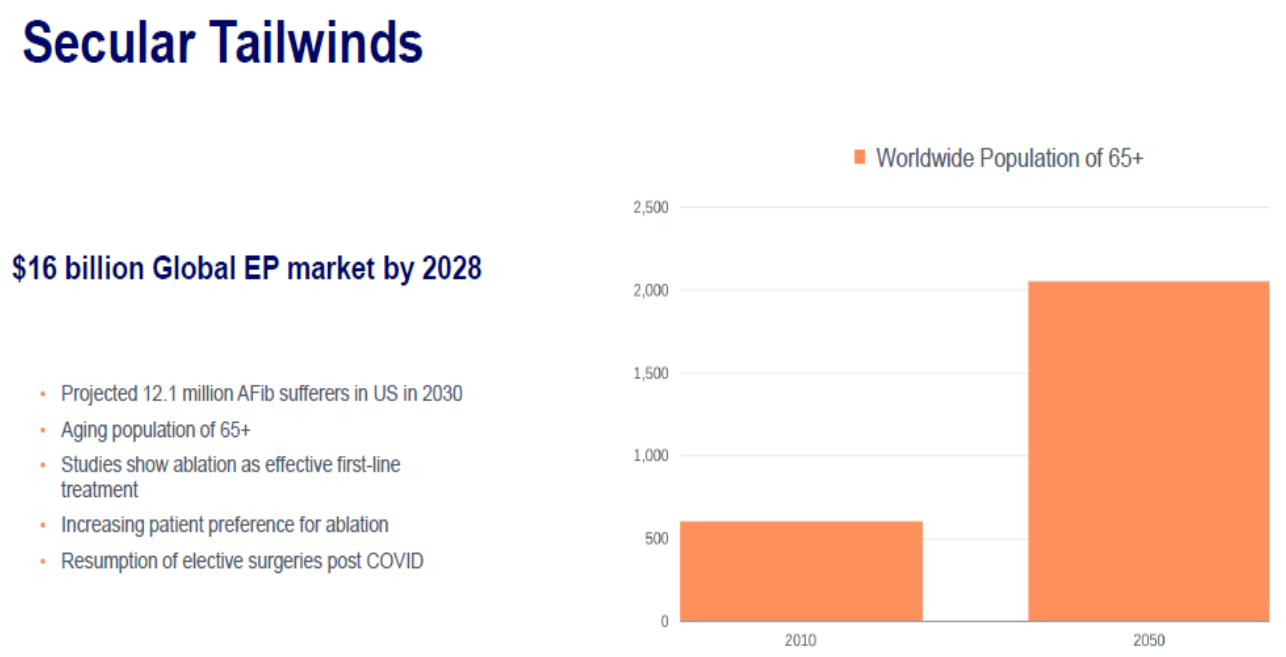
Two common, yet complex, conditions for which ablation procedures are performed are AF and VT. Complex arrhythmias, such as AF and VT, have complex pathophysiology thus ablating AF and VT has been regarded as being extremely difficult. Therefore, access to these procedures has traditionally been limited to being performed by only especially well-trained cardiologists and high-volume centers.

AF is the most common heart rhythm disorder in the world and increases the risk for stroke 5-fold. In 2020, the Centers for Disease Control and Prevention (CDC) stated that it is estimated that 12 million people in the U.S. will have AF in 2030, more than 454,000 patients hospitalized annually as the primary diagnosis, and AF contributes to an estimated 158,000 deaths each year. An increasing

proportion of diagnosed AF cases are now being treated via ablation, as both physician confidence and the devices used in these procedures improve. A growing amount of positive clinical data has demonstrated the efficacy of AF ablation when compared to the traditional first-line treatment of anti-arrhythmic drugs.

According to the Heart Rhythm Society, VT is the most dangerous arrhythmia since it may result in ventricular fibrillation, a rapid chaotic heartbeat in the lower chambers of the heart which can often result in sudden cardiac death. Because the fibrillating muscle cannot contract and pump blood to the brain and vital organs, ventricular fibrillation is the number one cause of sudden cardiac death which accounts for approximately 300,000 deaths in the U.S. each year. VT is typically treated with implantable cardioverter defibrillators, or ICDs, or a combination of ablation along with an ICD.

Exhibit 17: Global EP Market Growth



Source: Company reports.

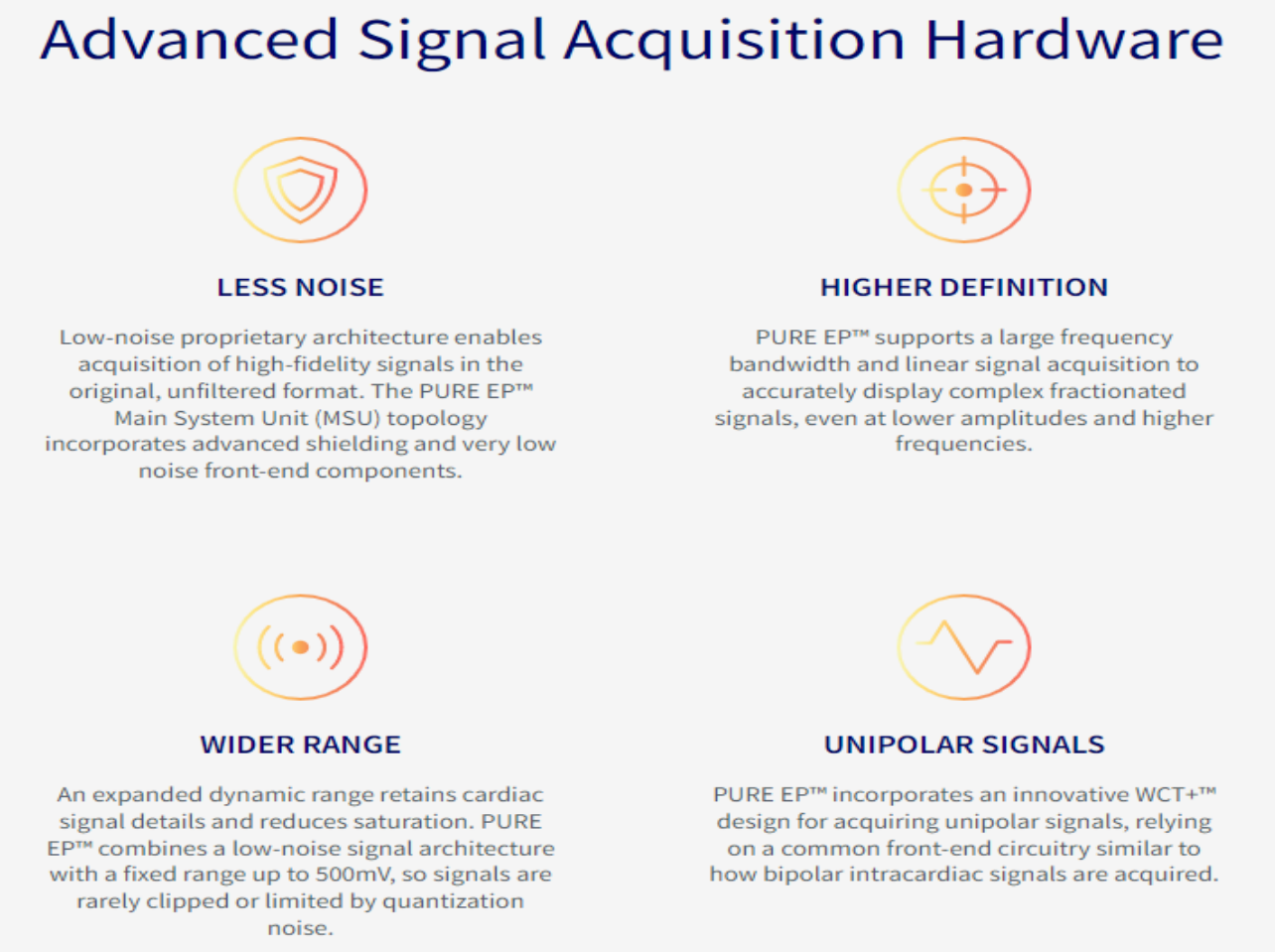
Improvements are needed to help reduce the periprocedural complications and decrease costly lengths of stay in patients undergoing catheter ablation procedures, adding focus to improving outcomes at low volume hospitals and among patients at high risk due to comorbidities. The PURE EP System may have a meaningful impact on assisting ablation strategies especially for repeat ablations and for those with significant scarring as it was developed to reveal the high frequency and very small amplitude of intracardiac signals important for identifying ablation targets. The PURE EP System can record raw (unaltered) cardiac and other physiologic signals with multiple display options, low noise, and a large input signal dynamic range.

The PURE EP System can improve patient outcomes in connection with catheter ablation due to the following advantages over currently available devices on the market:

- Less noise: PURE EP's low-noise proprietary architecture was engineered (advanced shielding and very low noise front-end components) to enable acquisition of high-fidelity signals in the original, unfiltered format.

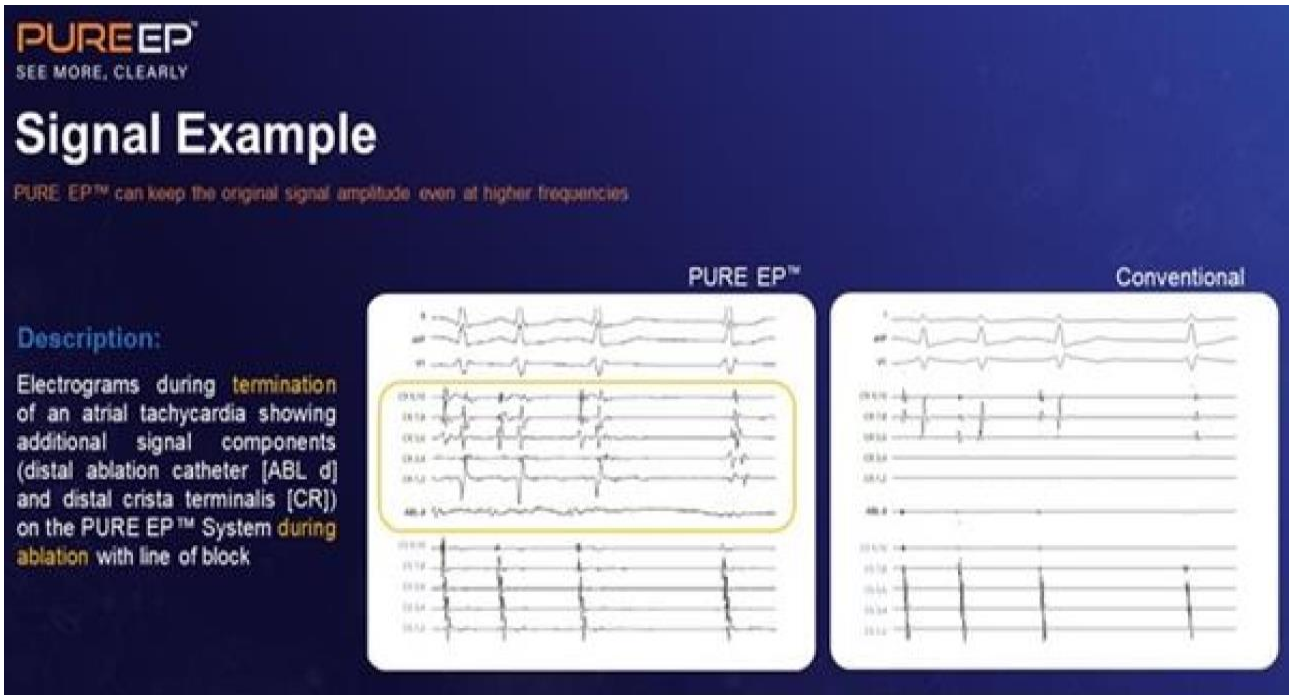
- Wider range: PURE EP's wide dynamic range was developed to retain cardiac signal details and reduce saturation. PURE EP combines a low-noise signal architecture with a fixed range up to 500mV, so signals are rarely clipped or limited.
- Higher fidelity: PURE EP's large frequency bandwidth and linear signal acquisition helps to accurately display complex fractionated signals, even at lower amplitudes and higher frequencies. This is critical for identifying and interpreting complex arrhythmogenic substrates.
- Clear, stable unipolar signals: The PURE EP System uses an innovative approach to acquiring unipolar signals. This enables clear, stable unipolar signals, without the need for an internal reference catheter.
- Customizable software and filters: PURE EP offers software modules and specialty digital filters, so electrophysiologists can customize their interface and optimize signals for mapping, signal interpretation, and during therapy delivery.
- Seamless integration: PURE EP integrates with existing EP labs and workflows. It is compatible and complementary with EP recording systems, mapping systems, robotic equipment, and multi-display panels.

Exhibit 18: PURE EP Advanced Signal Acquisition Hardware



Source: Company reports.

Exhibit 19: PURE EP Signal Example



Source: Company reports.

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. BioSig has installed PURE EP Systems at several medical centers of excellence throughout the U.S. for clinical evaluation - whereby these systems are installed on a trial basis for system evaluations; data collection for clinical trials; to gather and publish data in peer-reviewed journals and for presentations at cardiology conferences; and for potential demonstrations to other physicians to observe the technology.

BioSig is marketing the PURE EP System as an additional information system for the EP lab. There are currently four large companies that share the majority of the EP recording market share in the U.S. (with ASP of ~$160,000):

1. GE Healthcare's family of CardioLab Recording Systems were initially developed in the early 1990s by Prucka Engineering, which was acquired by GE in 1999.
2. The LabSystem PRO EP Recording System was originally designed in the late 1980s by C.R. Bard. C.R. Bard's electrophysiology business was acquired by Boston Scientific Corporation in 2013.
3. HeNan HuaNan Medical Science and Technology Co., LTD. offers the GY-6000 multi-channel physiological recorder (not FDA approved).
4. St. Jude Medical, Inc.'s EP-WorkMate Recording System was acquired from EP MedSystems, Inc. in 2008, which had received clearance for the product from the FDA in 2003. In January 2017, Abbott Laboratories acquired St Jude Medical.

The company believes that the above recording systems are built on relatively old technologies and all use similar approach in applying hardware and digital filters to remove noise and artifacts. The company believes this approach sacrifices cardiac signal fidelity, and in the case of ablation, has a direct impact on the ablation strategy of an electrophysiologist. The method to remove noise and artifacts used by the conventional recorders could be a contributing factor to the multiple (or repeated) ablation procedures that are frequently required in order to completely cure patients from complex arrhythmias.

Exhibit 20: 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:

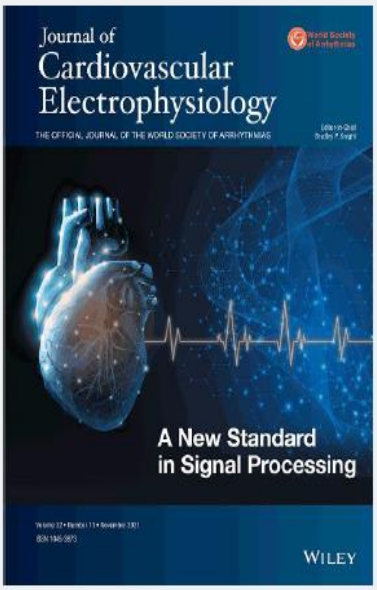
To determine the clinical value of the PURE EP signal when compared to conventional sources

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 (EGM) 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 21: BioSig Customer Highlights

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.

FINANCIALS

BioSig's fiscal year ends on December 31. We expect its next earnings report (for Q4 2022 ending December) to be in late March. BioSig typically releases its quarterly results through a SEC filing (10-Q/K). Because the company is at an early stage in its product commercialization, it currently generates minimal revenue and incurs significant losses as it funds its commercial sales development.

Exhibit 22: BioSig Historical and Projected Financials

FYE Dec 31					
(in millions except EPS)	2019A	2020A	2021A	2022E	2023E
Total Revenue	**-**	**-**	**0.4**	**0.3**	**1.4**
Growth % (y/y)				-32%	365%
Gross Profit	**-**	**-**	**0.2**	**0.2**	**0.9**
Operating income (loss)	**(34.6)**	**(59.2)**	**(33.4)**	**(27.0)**	**(28.5)**
Net income (pro forma)	**(34.1)**	**(52.2)**	**(31.9)**	**(26.9)**	**(28.5)**
EPS	**$ (1.65)**	**$ (1.87)**	**$ (0.95)**	**$ (0.62)**	**$ (0.47)**

Source: Company reports and Ascendiant Capital Markets estimates.

Recent Results (fiscal Q3 ending September 2022)

BioSig's recent financial performance is reflective of its early commercialization stage. In its Q3 2022 report (on November 14, 2022), the company reported revenues of $0.1 million and net loss was $6.4 million (EPS of $(0.14)), compared with Q3 2021's revenue of $0.1 million and net loss of $7.3 million (EPS of $(0.21)). Revenues grew +25% y-o-y and significantly sequentially from Q2 (although this was from a very low revenue base both sequentially and annually). Operating expenses were $6.6 million, compared to Q3 2021's $7.9 million and $5.7 million in Q2 2022.

Although revenues are still relatively minimal, we believe revenues should increase significantly in 2023. The company had a limited release in 2021 of its PURE EP system, but with full commercial launch in July 2022, we expect revenues to ramp up significantly going forward. BioSig currently has several major evaluation agreements with major hospitals (including the Cleveland Clinic) that we believe will translate into product revenue in 2023.

BioSig's current business model is to sell (or lease) its PURE EP system hardware and software for ~$200,000 with annual software upgrade updates for ~$75,000. The company has not provided any financial guidance, but we believe a quarterly cash burn of $4 million near term is reasonable. We believe that the high revenue growth in 2023/24 should provide operating leverage and improve gross margins and operating income (loss).

Exhibit 23: 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™ 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™ 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™ System with more than 80 physicians at 21 hospitals across the United States.
- The PURE EP™ 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™ System's potential to promote shorter procedural times and higher cost savings during catheter ablation procedures.
- BioSig's PURE EP™ 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™ 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™ software Version 6 with ACCUVIZ™ 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™ 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.

We have modeled limited revenues in 2022, but expect high revenue growth in 2023 and thereafter to scale up significantly which should drive improved margins and profitability. For 2022, we expect revenue of $0.3 million (-32% y-o-y), a net loss of $26.9 million, and EPS of $(0.62). For 2023, we expect revenues of $1.4 million (+365%), a net loss of $28.5 million, and EPS of $(0.47).

Exhibit 24: Consensus Expectations (as of February 10, 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 Ascendiant Capital Markets estimates

We believe investors should be focused on its progress on its PURE EP product commercialization, which is growing fast and is expected to have continued high growth over the next several years. We believe that the biggest potential variable and challenge to our financial model is the ability of the company to successfully commercialize, develop, and grow its PURE EP business platforms. If the company can make significant progress towards these goals, then revenue and earnings will likely be able to grow significantly. However, if the company has difficulties in making progress towards these goals, then revenue growth and profitability may not be achieved or will likely grow at a low rate or even not at all.

The company's balance sheet has $1 million in cash and no debt as of September 2022. In Q4 (ending December 2022), the company raised ~$3.5 million selling stock (~$0.47/share). In the current Q1 (ending March 2023), the company has so far raised ~$4.1 million selling stock (~$0.73/share). We believe the company has enough cash through Q1 2023, but that it will likely need to raise capital soon (in Q2).

Exhibit 25: BioSig Financial Metrics

Recent Share Price (2/10/23)	$ 1.35
52-Weeks Share Price (Low - High)	$0.25 - 1.73
Shares Outstanding	59 million
Market Capitalization	$80 million
Enterprise Value	$79 million
Cash (9/30/22)	$1 million
Debt (9/30/22)	$0
2021A Revenue	$0.4 million
2021A Net loss	$31.9 million
2021A EPS	$ (0.95)
2022E Revenue	$0.3 million
2022E Net loss	$26.9 million
2022E EPS	$ (0.62)
2023E Revenue	$1.4 million
2023E Net loss	$28.5 million
2023E EPS	$ (0.47)

Source: Company reports and Ascendiant Capital Markets estimates.

FINANCIAL MODEL

BioSig Technologies, Inc.

Income Statement ($ mils)	2019	2020	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
Fiscal Year End: December 31	FY-A	FY-A	Q1A	Q2A	Q3A	Q4A	FY-A	Q1A	Q2A	Q3A	Q4E	FY-E	Q1E	Q2E	Q3E	Q4E	FY-E
Total Revenue	**0.00**	**0.00**	**0.12**	**0.21**	**0.11**	**0.01**	**0.44**	**0.01**	**0.01**	**0.14**	**0.15**	**0.30**	**0.20**	**0.30**	**0.40**	**0.50**	**1.40**
Cost of Revenues	0.00	0.00	0.10	0.06	0.04	0.00	0.20	0.00		0.03	0.05	0.08	0.07	0.11	0.14	0.18	0.49
Gross Profit	0.00	0.00	0.02	0.15	0.07	0.01	0.24	0.01	0.01	0.11	0.10	0.22	0.13	0.20	0.26	0.33	0.91
Research & development	9.74	18.14	1.27	1.67	1.32	1.35	5.60	1.62	1.35	1.73	1.65	6.35	1.60	1.66	1.80	1.75	6.81
General & administrative	24.81	40.95	7.27	6.48	6.51	7.60	27.85	6.40	4.30	4.77	4.95	20.43	4.80	5.40	5.60	6.00	21.80
Depreciation	0.05	0.09	0.04	0.05	0.05	0.06	0.20	0.06	0.07	0.08	0.20	0.41	0.20	0.20	0.20	0.20	0.80
Restructuring and other							0.00					0.00					0.00
Total operating expenses	34.60	59.18	8.58	8.20	7.87	9.01	33.65	8.07	5.72	6.59	6.80	27.19	6.60	7.26	7.60	7.95	29.41
Operating income (loss)	**(34.60)**	**(59.18)**	**(8.56)**	**(8.05)**	**(7.80)**	**(9.00)**	**(33.41)**	**(8.07)**	**(5.72)**	**(6.49)**	**(6.70)**	**(26.97)**	**(6.47)**	**(7.06)**	**(7.34)**	**(7.63)**	**(28.50)**
Interest income (expense)	0.13	0.05	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)	0.39	6.91	0.24	0.35	0.55	0.35	1.48	0.10	(0.15)	0.09	0.00	0.04	0.00	0.00	0.00	0.00	0.00
Income before income taxes	(34.08)	(52.23)	(8.32)	(7.70)	(7.26)	(8.65)	(31.93)	(7.97)	(5.87)	(6.39)	(6.70)	(26.93)	(6.47)	(7.06)	(7.34)	(7.63)	(28.50)
Income taxes							0.00				0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net income (loss)	(34.08)	(52.23)	(8.32)	(7.70)	(7.26)	(8.65)	(31.93)	(7.97)	(5.87)	(6.39)	(6.70)	(26.93)	(6.47)	(7.06)	(7.34)	(7.63)	(28.50)
Nonrecurring/noncash adjustments							0.00					0.00					0.00
Net income (pro forma)	**(34.08)**	**(52.23)**	**(8.32)**	**(7.70)**	**(7.26)**	**(8.65)**	**(31.93)**	**(7.97)**	**(5.87)**	**(6.39)**	**(6.70)**	**(26.93)**	**(6.47)**	**(7.06)**	**(7.34)**	**(7.63)**	**(28.50)**
EBITDA																	
Shares, Basic	20.7	27.9	31.6	32.2	34.9	35.5	33.51	36.0	39.8	45.0	52.0	43.2	59.0	60.0	61.0	62.0	60.5
Shares, Diluted	20.7	27.9	31.6	32.2	34.9	35.5	33.5	36.0	39.8	45.0	52.0	43.2	59.0	60.0	61.0	62.0	60.5
EPS Basic (pro forma)	**($1.65)**	**($1.87)**	**($0.26)**	**($0.24)**	**($0.21)**	**($0.24)**	**($0.95)**	**($0.22)**	**($0.15)**	**($0.14)**	**($0.13)**	**($0.62)**	**($0.11)**	**($0.12)**	**($0.12)**	**($0.12)**	**($0.47)**
EPS Diluted (pro forma)	($1.65)	($1.87)	($0.26)	($0.24)	($0.21)	($0.24)	($0.95)	($0.22)	($0.15)	($0.14)	($0.13)	($0.62)	($0.11)	($0.12)	($0.12)	($0.12)	($0.47)
Margins																	
Gross margin			16%	70%	65%	100%	55%	100%	100%	78%	65%	73%	65%	65%	65%	65%	65%
Research & development			1073%	805%	1218%	16925%	1270%	20213%	16888%	1284%	1100%	2110%	800%	552%	450%	350%	486%
General & administrative			6162%	3130%	6023%	94963%	6316%	80013%	53775%	3536%	3300%	6786%	2400%	1800%	1400%	1200%	1557%
Operating margin			-7254%	-3889%	-7223%	-112488%	-7576%	-100813%	-71450%	-4804%	-4468%	-8960%	-3235%	-2354%	-1835%	-1525%	-2035%
Tax rate, GAAP			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%	-4468%	-8946%	-3235%	-2354%	-1835%	-1525%	-2035%
Y/Y % change																	
Total Revenue								-93%	-96%	25%	1775%	-32%	2400%	3650%	196%	233%	365%
Gross margin								-58%	-94%	50%	1119%	-10%	1525%	2338%	148%	233%	316%
Research & development		86%					-69%	-71%	-16%	28%	-5%	13%	-75%	3%	9%	-3%	7%
General & administrative		65%					-32%	-77%	-33%	11%	4%	-27%	-77%	13%	4%	7%	7%
Operating income (loss)		71%					-44%	-6%	-29%	-17%	-26%	-19%	-20%	24%	13%	14%	6%
Net income (loss)		53%					-39%	-4%	-24%	-12%	-22%	-16%	-19%	20%	15%	14%	6%
EPS Diluted (pro forma)		14%					-49%	-16%	-38%	-32%	-47%	-35%	-50%	-20%	-15%	-5%	-24%

Source: Company reports and Ascendiant Capital Markets estimates.

BioSig Technologies, Inc.

Balance Sheet ($ mils) Fiscal Year End: December 31	Dec-19 Q4A	Dec-20 Q4A	Mar-21 Q1A	Jun-21 Q2A	Sep-21 Q3A	Dec-21 Q4A	Mar-22 Q1A	Jun-22 Q2A	Sep-22 Q3A	Dec-22 Q4E	Mar-23 Q1E	Jun-23 Q2E	Sep-23 Q3E	Dec-23 Q4E
Assets														
Cash and cash equivalents	12.11	28.27	22.48	15.50	17.54	11.66	8.67	5.08	0.89	0.23	1.38	(4.51)	(10.96)	(17.43)
Short term investments										0.00	0.00	0.00	0.00	0.00
Accounts receivable, net				0.20	0.10				0.01	0.02	0.02	0.03	0.04	0.06
Inventory	0.58	0.77	0.65	0.73	1.88	1.88	2.03	2.03	1.69	1.50	1.60	1.50	1.60	1.50
Deferred income taxes										0.00	0.00	0.00	0.00	0.00
Prepaid expenses and other	0.14	0.30	0.21	0.52	0.48	0.35	0.31	0.63	0.51	0.56	0.07	0.11	0.15	0.19
Total current assets	12.83	29.34	23.33	16.95	20.00	13.89	11.00	7.74	3.09	2.30	3.08	(2.87)	(9.17)	(15.69)
Property and equipment, net	0.18	0.29	0.38	0.39	0.56	0.65	0.66	0.60	0.69	0.59	0.54	0.45	0.46	0.41
Leases	0.71	0.31	0.36	0.25	0.69	0.60	0.52	0.90	0.89	0.89	0.89	0.89	0.89	0.89
Intangibles, net	0.37	0.35	0.34	0.34	0.33	0.33	0.32	0.32	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
Other	0.13	0.11	0.10	0.10	0.09	0.04	0.04	0.04	0.04		0.00	0.00	0.00	0.00
Total assets	**14.22**	**30.39**	**24.52**	**18.03**	**21.67**	**15.52**	**12.54**	**9.59**	**5.02**	**4.09**	**4.82**	**(1.23)**	**(7.51)**	**(14.08)**
Liabilities and stockholders' equity														
Accounts payable	1.49	4.72	3.46	3.03	2.17	2.18	2.34	1.45	2.09	2.32	1.00	1.50	2.00	2.50
Accrued expenses	0.13	0.07	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.10	0.08	0.06	0.08	0.10
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
Deferred income tax										0.00	0.00	0.00	0.00	0.00
Warrant liabilities										0.00	0.00	0.00	0.00	0.00
Leases	0.41	0.31	0.33	0.25	0.29	0.28	0.25	0.34	0.35	0.35	0.35	0.35	0.35	0.35
Other										0.00	2.00	2.00	2.00	2.00
Short term debt										0.00	0.00	0.00	0.00	0.00
Total current liabilities	**2.03**	**5.11**	**3.90**	**3.38**	**2.57**	**2.58**	**2.71**	**1.90**	**2.54**	**2.78**	**3.44**	**3.92**	**4.44**	**4.96**
Deferred income taxes										0.00	0.00	0.00	0.00	0.00
Warrant liabilities										0.00	0.00	0.00	0.00	0.00
Other long term liabilities										0.00	0.00	0.00	0.00	0.00
Leases	0.31	0.00	0.03	0.00	0.41	0.37	0.32	0.61	0.54	0.54	0.54	0.54	0.54	0.54
Deferred revenue			0.03	0.02	0.01	0.01			0.01	0.01	0.01	0.01	0.01	0.01
Minority interest	0.52	0.80	0.58	0.37	0.44	0.22	0.02	0.12						
Long term debt										0.00	0.00	0.00	0.00	0.00
Total other liabilities	**0.83**	**0.80**	**0.64**	**0.40**	**0.86**	**0.60**	**0.33**	**0.73**	**0.55**	**0.55**	**0.55**	**0.55**	**0.55**	**0.55**
Preferred stock	0.22	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	0.02	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.58	1.12	1.66	2.19	2.73
Additional paid-in capital	115.91	181.34	185.17	187.14	198.38	201.13	206.24	209.46	210.79	210.79	210.79	210.79	210.79	210.79
Retained earnings	(104.79)	(157.01)	(165.32)	(173.03)	(180.28)	(188.92)	(196.89)	(202.64)	(209.02)	(215.72)	(222.19)	(229.25)	(236.59)	(244.21)
Other										5.00	11.00	11.00	11.00	11.00
Accumulated other comprehensive income										0.00	0.00	0.00	0.00	0.00
Total stockholders' equity	**11.36**	**24.48**	**19.98**	**14.25**	**18.24**	**12.35**	**9.50**	**6.96**	**1.93**	**0.76**	**0.83**	**(5.70)**	**(12.50)**	**(19.59)**
Total stockholders' equity and liabili	**14.22**	**30.39**	**24.52**	**18.03**	**21.67**	**15.52**	**12.54**	**9.59**	**5.02**	**4.09**	**4.82**	**(1.23)**	**(7.51)**	**(14.08)**

Balance Sheet Drivers

	Dec-19 Q4A	Dec-20 Q4A	Mar-21 Q1A	Jun-21 Q2A	Sep-21 Q3A	Dec-21 Q4A	Mar-22 Q1A	Jun-22 Q2A	Sep-22 Q3A	Dec-22 Q4E	Mar-23 Q1E	Jun-23 Q2E	Sep-23 Q3E	Dec-23 Q4E
Prepaid as % of total rev			177%	249%	447%	4425%	3888%	7913%	375%	375%	37%	37%	37%	37%
Inventory as % of total rev			551%	353%	1742%	23513%	25325%	25325%	1253%	1000%	800%	500%	400%	300%
A/P as % of total rev			2931%	1462%	2008%	27238%	29300%	18138%	1550%	1550%	500%	500%	500%	500%
Accrued exp related as % of total rev			64%	37%	73%	1025%	1050%	1075%	66%	66%	40%	20%	20%	20%
Activity Ratios														
A/R Days Sales Outstanding			0	87	83	0	0	0	3	10	10	10	10	10
Book & Cash Value (per share)														
Book Value per Share (diluted)	$0.55	$0.88	$0.63	$0.44	$0.52	$0.35	$0.26	$0.17	$0.04	$0.01	$0.01	-$0.09	-$0.20	-$0.32
Cash per Share (diluted)	$0.59	$1.01	$0.71	$0.48	$0.50	$0.33	$0.24	$0.13	$0.02	$0.00	$0.02	-$0.08	-$0.18	-$0.28
Net cash per Share (diluted)	$0.59	$1.01	$0.71	$0.48	$0.50	$0.33	$0.24	$0.13	$0.02	$0.00	$0.02	-$0.08	-$0.18	-$0.28

Source: Company reports and Ascendiant Capital Markets estimates

BioSig Technologies, Inc.

Cash Flow Statement ($ mils)	2019	2020	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
Fiscal Year End: December 31	FY-A	FY-A	Q1A	Q2A	Q3A	Q4A	FY-A	Q1A	Q2A	Q3A	Q4E	FY-E	Q1E	Q2E	Q3E	Q4E	FY-E
Cash flow from operating activities																	
Net income	(34.47)	(59.14)	(8.56)	(8.05)	(7.25)	(9.00)	(32.86)	(8.07)	(5.72)	(6.49)	(6.70)	(26.97)	(6.47)	(7.06)	(7.34)	(7.63)	(28.50)
Depreciation	0.05	0.09	0.04	0.05	0.05	0.06	0.20	0.06	0.07	0.08	0.10	0.31	0.10	0.10	0.10	0.10	0.40
Amortization							0.00					0.00					0.00
Non-cash lease expense	0.35	0.46	0.11	0.12	0.10	0.11	0.44	0.09	0.08	0.08		0.24					0.00
Debt related amortization expense							0.00					0.00					0.00
Stock comp	15.18	25.17	2.52	1.79	2.30	2.89	9.50	2.00	0.17	0.54	0.54	3.24	0.54	0.54	0.54	0.54	2.15
Deferred income taxes							0.00				0.00	0.00	0.00	0.00	0.00	0.00	0.00
Change in fair value of warrant l	0.67			0.32			0.32	0.02				0.02					0.00
Writedowns and impairments							0.00					0.00					0.00
Other gains/losses					(0.55)		(0.55)					0.00					0.00
Other	3.16	4.47					0.00					0.00					0.00
Changes in operating assets and liabilities:																	
Accounts receivable				(0.20)	0.10	0.10	0.00			(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.04)
Inventory	(0.58)	(0.29)	0.12	(0.08)	(1.15)	(0.00)	(1.11)	(0.15)		0.22	0.19	0.26	(0.10)	0.10	(0.10)	0.10	0.00
Prepaid expenses & other curre	(0.14)	(0.14)	0.10	(0.31)	0.04	0.18	0.01	0.04	(0.32)	0.06	(0.06)	(0.27)	0.49	(0.04)	(0.04)	(0.04)	0.38
Income tax							0.00					0.00					0.00
Other assets	0.10						0.00				0.04	0.04	0.00	0.00	0.00	0.00	0.00
Accounts payable	0.54	3.23	(1.26)	(0.43)	(0.31)	0.01	(1.99)	0.17	(0.90)	0.64	0.23	0.15	(1.32)	0.50	0.50	0.50	0.18
Accrued expenses							0.00				0.01	0.01	(0.02)	(0.02)	0.02	0.02	0.00
Deferred revenue			0.06	(0.01)	(0.01)	(0.01)	0.04	(0.01)	(0.01)	(0.01)		(0.02)					0.00
Other liabilities	(0.34)	(0.46)	(0.12)	(0.13)	(0.09)	(0.06)	(0.40)	(0.09)	(0.08)	(0.07)	0.00	(0.23)	0.00	0.00	0.00	0.00	0.00
Net cash (used in) provided by	**(15.48)**	**(26.60)**	**(6.99)**	**(6.92)**	**(6.76)**	**(5.73)**	**(26.40)**	**(5.94)**	**(6.70)**	**(4.95)**	**(5.66)**	**(23.25)**	**(6.79)**	**(5.89)**	**(6.33)**	**(6.42)**	**(25.43)**
Cash flow from investing activities																	
Purchases of property and equi	(0.17)	(0.09)	(0.13)	(0.05)	(0.22)	(0.14)	(0.54)	(0.06)	(0.01)	(0.05)	(0.01)	(0.12)	(0.05)	(0.01)	(0.12)	(0.05)	(0.22)
Purchases of short-term investments							0.00					0.00					0.00
Acquisitions	(0.11)						0.00					0.00					0.00
Other							0.00					0.00	2.00				2.00
Net cash used in investing acti	**(0.29)**	**(0.09)**	**(0.13)**	**(0.05)**	**(0.22)**	**(0.14)**	**(0.54)**	**(0.06)**	**(0.01)**	**(0.05)**	**(0.01)**	**(0.12)**	**1.95**	**(0.01)**	**(0.12)**	**(0.05)**	**1.78**
Cash flow from financing activities																	
Issuance of debt							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
Issuance of stock	10.01	27.44	1.30		9.01	(0.00)	10.30	3.00	3.12	0.81	0.00	6.93	0.00	0.00	0.00	0.00	0.00
Proceeds from stock option exe	8.41	4.81	0.03				0.03					0.00					0.00
Other	5.01	10.59					0.00				5.00	5.00	6.00				6.00
Dividends and distributions							0.00					0.00					0.00
Cash provided by (used in) fina	**23.43**	**42.85**	**1.33**	**0.00**	**9.01**	**(0.00)**	**10.33**	**3.00**	**3.12**	**0.81**	**5.00**	**11.93**	**6.00**	**0.00**	**0.00**	**0.00**	**6.00**
Effect of exchange rate on cash							0.00					0.00					0.00
Net increase (decrease) in cash	**7.66**	**16.16**	**(5.79)**	**(6.97)**	**2.03**	**(5.88)**	**(16.61)**	**(2.99)**	**(3.59)**	**(4.19)**	**(0.66)**	**(11.43)**	**1.16**	**(5.90)**	**(6.45)**	**(6.47)**	**(17.65)**
Beginning cash and equivalents	**4.45**	**12.11**	**28.27**	**22.48**	**15.50**	**17.54**	**28.27**	**11.66**	**8.67**	**5.08**	**0.89**	**11.66**	**0.23**	**1.38**	**(4.51)**	**(10.96)**	**0.23**
Ending cash and equivalents	**12.11**	**28.27**	**22.48**	**15.50**	**17.54**	**11.66**	**11.66**	**8.67**	**5.08**	**0.89**	**0.23**	**0.23**	**1.38**	**(4.51)**	**(10.96)**	**(17.43)**	**(17.43)**

Source: Company reports and Ascendiant Capital Markets estimates

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BioSig Technologies, Inc.

- Ascendiant 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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Ascendiant 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.

Ascendiant Capital Markets, LLC Rating System

Prior to January 31, 2014, ASCM used the following rating system:

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Sell: We expect the stock to provide a total return of minus 10% or worse within a 12-month period.

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Total return is defined as price appreciation plus dividend yield.

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

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