

BioSig Technologies (BSGM - \$1.40)

PURE EP Gaining Ground as Awareness Grows

We recently spent time with BSGM management at the Heart Rhythm Society (HRS) meeting in Chicago and come away incrementally positive as inability to detect true signals from noise during electrophysiology (EP) procedures remains a real problem. We are particularly encouraged by a recent publication in the JICRM entitled "Initial Experience with the BioSig PURE EP Signal Recording System: An Animal Laboratory Experience" that discusses EP specialists' experiences with PURE EP in cardiac mapping and ablations vs. conventional EP equipment. The article describes challenges in modern EP such as maintaining appropriate contact between catheters and tissue in order to perform accurate mapping and ablations. To enable catheter force sensors to function adequately, current catheters used are relatively stiff. However, the article argues that PURE EP's expanded frequency and dynamic range could render stiff catheter unnecessary as the current of injury (COI) seen only with PURE EP correlates sufficiently with the contact force. Additionally, the paper emphasized the importance of catheter visualization above and below the aortic valve to avoid injury. While no current options can consistently enable this type of catheter visualization, PURE EP displayed variations in signal morphology when ablating above valve vs. below valve with promise of reproducibility. We believe these findings attest to the unique and disruptive nature of PURE EP and could only enhance its attractiveness as an acquisition target in a field fueled by M&A activity. We view BSGM as overlooked and undervalued at these levels and reiterate our Buy rating and \$4 price target.

- **Transformative publication pre-HRS, timely to say the least.** We view this JICRM publication prior to HRS and following their 10-year Mayo Clinic partnership as timely and see PURE EP as a key step to enabling better visualization during ablations as catheter innovations still face noise complications.
- **Few players in a massive space, BSGM becoming a more attractive target.** As very few players own most of the market share in EP recording (GE Healthcare, Abbot Laboratories and Boston Scientific), we see PURE EP's capabilities as disruptive and enhances, in our view, its attractiveness as an M&A target. We also believe 510(k) clearance (2H17) could trigger its potential acquisition.
- **Maintain our Buy rating, \$4 PT.** Our price target is based on sum-of-the-parts analysis with \$2.75/share for PURE EP in US, \$0.75/share for PURE EP in EU and \$0.50/share for cash and technology.

Earnings Estimates: (per share)

Dec FY	1Q	2Q	3Q	4Q	FY	P/E
FY18E	(0.07)	(0.06)	(0.05)	(0.04)	(0.23)	NA
FY17E	(0.14)A	(0.08)	(0.08)	(0.10)	(0.40)	NA
FY16	(0.15)	(0.32)	(0.07)	(0.06)	(0.59)	NA
FY15	(0.25)	(0.34)	0.01	(0.14)	(0.67)	NA

Source: Laidlaw & Company estimates

Healthcare / Biotechnology

Ticker: **BSGM**
Rating: **Buy**
Price Target: **\$4.00**

Trading Data:

Last Price (03/24/2017)	\$1.40
52-Week High (11/10/2016)	\$2.00
52-Week Low (4/11/2016)	\$1.05
Market Cap. (MM)	\$35.3
Shares Out. (MM)	25.2

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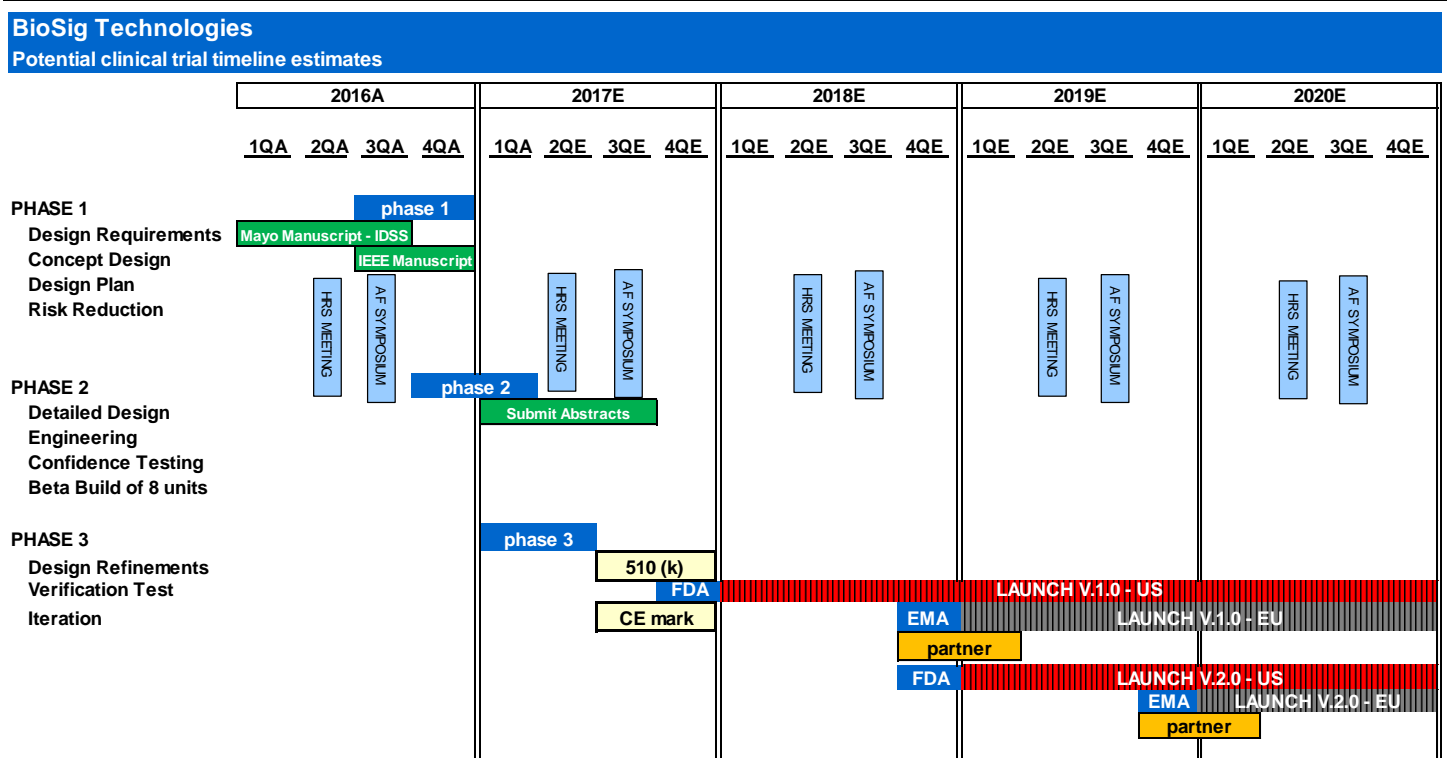
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Figure 1. Sum-of-the-Parts Analysis

Sum-of-the-parts valuation		
Segment	Valuation (000's)	Per share value
PURE EP US	\$122,478	\$2.75
PURE EP ex-US	\$31,858	\$0.75
Cash (end of '17E)	\$17,832	\$0.50
	\$172,168	\$4.00
2017 fully diluted shares out (000)		44,918

Source: Company reports; Laidlaw and Company estimates

Figure 2: Potential Clinical Timeline



Source: Company reports; Laidlaw and Company estimates

Figure 3: Quarterly Income Statement

BioSig Technologies										
Quarterly income statement										
(\$000's except per share)	2016A				2016A Year	2017E				2017E Year
	1QA	2QA	3QA	4QA		1QA	2QE	3QE	4QE	
Revenues										
PURE EP-US sales										
PURE EP EU royalties										
Total Revenues										
COGS										
Gross margin										
SG&A	1,939	4,381	992	1,188	8,499	1,557	1,500	1,750	2,500	7,307
R&D	372	1,153	561	569	2,655	1,339	550	575	600	3,064
Depreciation	3	2	3	3	10	3	3	3	3	12
Operating income/(loss)	(2,314)	(5,536)	(1,555)	(1,759)	(11,164)	(2,899)	(2,053)	(2,328)	(3,103)	(10,383)
Interest (exp) income		1			0					0
Gain (loss) on ch. In fair value	(268)	(556)	18	384	(423)	(374)	50	50	50	(224)
Other					0					0
Total other income (expense)	(268)	(555)	18	384	(423)	(374)	50	50	50	(224)
(Loss) income before income tax	(2,583)	(6,091)	(1,537)	(1,376)	(11,587)	(3,273)	(2,003)	(2,278)	(3,053)	(10,607)
Income Taxes (benefit)										
Net (loss) income	(2,583)	(6,091)	(1,537)	(1,376)	(11,587)	(3,273)	(2,003)	(2,278)	(3,053)	(10,607)
Pref. Stock dividend	(32)	(28)	(25)	(25)	(110)	(24)				
NI/(loss) as reported	(2,615)	(6,120)	(1,562)	(1,400)	(11,697)	(3,296)				
Adj-EPS ex-non-cash	(\$0.15)	(\$0.32)	(\$0.07)	(\$0.06)	(\$0.59)	(\$0.14)	(\$0.08)	(\$0.08)	(\$0.10)	(\$0.40)
EPS as reported	(\$0.15)	(\$0.32)	(\$0.08)	(\$0.07)	(\$0.60)	(\$0.14)				
Shares out (000)	17,074	18,876	20,581	21,432	19,491	23,052	26,379	27,807	30,057	26,824
Fully diluted shares (000)	33,007	36,198	37,731	43,374	37,577	42,430	43,879	45,557	47,807	44,918

Source: Bloomberg LP; Company Reports; Laidlaw & Company estimates

Figure 4: Annual Income Statement

BioSig Technologies								
Annual income statement								
(\$000's except per share)	2015A	2016A	2017E	2018E	2019E	2020E	2021E	Comments
Revenues								
PURE EP-US				\$7,350	\$24,528	\$46,286	\$51,339	PURE EP US launch V.1.0 1Q18 PURE EP US launch V.2.0 1Q19 PURE EP EU launch V.1.0 1Q19 PURE EP EU launch V.2.0 1Q20
COGS	0	0	0	2,573	8,585	16,431	18,482	
Gross margin	0	0	0	4,778	16,039	30,386	34,650	
SG&A	10,795	8,499	7,307	10,500	13,500	15,500	17,500	
R&D	1,239	2,655	3,064	2,650	3,050	3,450	3,850	
Operating income/(loss)	(12,044)	(11,164)	(10,383)	(8,385)	(523)	11,350	13,288	
Interest expense	(1)	0	0	0	0	0	0	
Conv note extinguish	3,114	(423)	(224)	300	300	400	400	
Other	(530)	0	0	0	0	0	0	
Total other loss	2,583	(423)	(224)	300	300	400	400	
Adj-Net income/(loss)	(9,461)	(11,587)	(10,607)	(8,085)	(223)	11,750	13,688	
Series A convert premium	(352)	(110)						
Other convert premium	0	0						
NI/(loss) as reported	(9,813)	(11,697)						
Adj-EPS ex-non-cash	(\$0.67)	(\$0.59)	(\$0.40)	(\$0.23)	(\$0.00)	\$0.16	\$0.16	
EPS as reported	(\$0.70)	(\$0.60)						
Shares out (000)	14,103	19,491	26,824	35,870	45,995	57,120	69,245	
Fully diluted shares (000)	29,943	37,577	44,918	53,745	64,120	75,495	87,932	

Source: Bloomberg LP; Company Reports; Laidlaw & Company estimates

Major Risks

Exogenous events could impact our outlook. We believe pharmaceutical companies have the least control over competitive, political, and regulatory risks. Although we have incorporated competitive assumptions into our forecasts, there may be other risks beyond the scope of our analysis. Changes in the drug reimbursement system, as well as any political or regulatory amendments, may significantly influence the earnings power of these companies.

Actual clinical results and the FDA's conclusions may deviate from expectations. Many of our assumptions are based on a review of incomplete clinical trial data available in the public domain. Often, our conclusions are drawn from early stage data, which may not be reflected by pivotal studies. Furthermore, the FDA's conclusions may not coincide with our own, materially changing our revenue and earnings assumptions.

Compliance issues, product recalls, and other mandates by regulatory authorities could materially change our expectations. Regulatory compliance issues, ranging from accounting irregularities to defective manufacturing practices, could materially change our assumptions and earnings outlook. Unanticipated product recalls and labeling changes could also have adverse consequences on our earnings assumptions.

Legal risks could lead to additional liabilities and revenue loss. In addition to the expenses incurred by patent challenges, product liability and other legal suits could occur and lead to additional liabilities and revenue loss, which could substantially change our financial assumption

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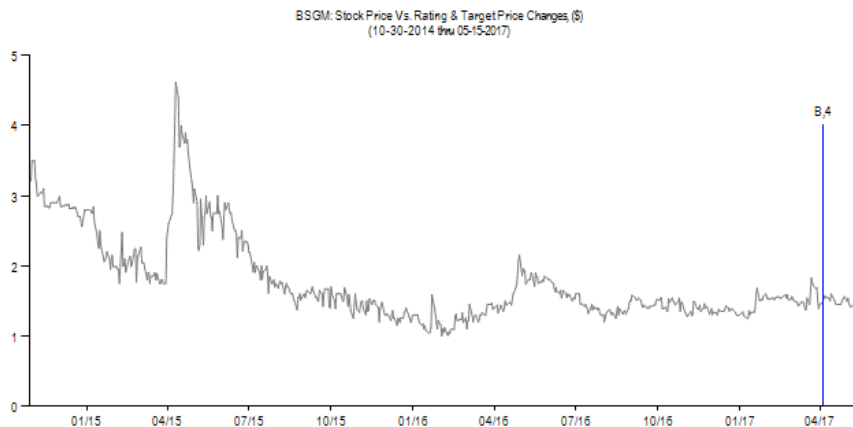
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Additional information available upon request.

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Rating and Price Target Change History



3 Year Rating Change History

Date	Rating	Closing Price (\$)
04/05/2...	Buy (B)	1.58

3 Year Price Change History

Date	Target Price (\$)	Closing Price, (\$)
04/05/2...	4.00	1.58

Source: Laidlaw & Company

Created by: Blue-Compass.net

Laidlaw & Company Rating System*		% of Companies Under Coverage With This Rating	% of Companies for which Laidlaw & Company has performed services for in the last 12 months	
			Investment Banking	Brokerage
Strong Buy (SB)	Expected to significantly outperform the sector over 12 months.	2.27%	0.00%	0.00%
Buy (B)	Expected to outperform the sector average over 12 months.	61.36%	29.55%	2.27%
Hold (H)	Expected returns to be in line with the sector average over 12 months.	2.27%	0.00%	0.00%
Sell (S)	Returns expected to significantly underperform the sector average over 12 months.	0.00%	0.00%	0.00%

ADDITIONAL COMPANIES MENTIONED

General Electric (GE – Not Rated)
Abbot Laboratories (ABT – Not Rated)
Boston Scientific (BSX – Not Rated)

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