

BioLife Solutions Inc (BLFS-NASDAQ)**BLFS: Loss of Manufacturing Customer a Surprise, Will Take a Bite Out of Revenue****OUTLOOK**

Demand for biopreservation media is estimated to grow at an annual rate of almost 20% over the next several years, largely driven by rapid growth of the emerging field of regenerative medicine (including cell therapy and tissue engineering). BioLife's strategy is to build greater visibility and awareness of the benefits of their biopreservation products compared to the "home-brews" that currently dominate the market. The company's contract manufacturing business was providing a source of near-term revenue although loss of their major mfg customer will cause a big hiccup in revenue in 2014. However, the core biopreservation product sales are growing 25%+ due to growing uptake from clinical trial-stage products as well as in the hair restoration field. This is what we expect to be the long-term driver of revenue and earnings. Company is also looking for add'l contract manuf customers as well as other complementary revenue opportunities.

Current Recommendation	Outperform
Prior Recommendation	Neutral
Date of Last Change	02/13/2014
Current Price (05/09/14)	\$1.89
Target Price	\$7.50

SUMMARY DATA

52-Week High	\$19.61
52-Week Low	\$2.00
One-Year Return (%)	-55.38
Beta	-0.56
Average Daily Volume (sh)	47,357

Shares Outstanding (mil)	12
Market Capitalization (\$mil)	\$22.6
Short Interest Ratio (days)	0.13
Institutional Ownership (%)	0
Insider Ownership (%)	37

Annual Cash Dividend	\$0.00
Dividend Yield (%)	0.00

5-Yr. Historical Growth Rates	
Sales (%)	51.7
Earnings Per Share (%)	N/A
Dividend (%)	N/A

P/E using TTM EPS	N/A
P/E using 2014 Estimate	N/A
P/E using 2015 Estimate	N/A

Zacks Rank	N/A
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Risk Level	High,
Type of Stock	N/A
Industry	Med Products

ZACKS ESTIMATES**Revenue**

(in '000 of \$)

	Q1	Q2	Q3	Q4	Year
	(Mar)	(Jun)	(Sep)	(Dec)	(Dec)
2013	2160 A	2330 A	2171 A	2289 A	8949 E
2014	2065 A	1302 E	1357 E	1457 E	6182 E
2015					8295 E
2016					11547 E

Earnings per Share

	Q1	Q2	Q3	Q4	Year
	(Mar)	(Jun)	(Sep)	(Dec)	(Dec)
2013	-\$0.00 A	-\$0.06 A	-\$0.06 A	-\$0.10 A	-\$0.22 A
2014	-\$0.10 A	-\$0.05 E	-\$0.05 E	-\$0.05 E	-\$0.23 E
2015					-\$0.06 E
2016					\$0.04 E

Zacks Projected EPS Growth Rate - Next 5 Years % **N/A**

WHAT'S NEW.....

Loss of Contract Mfg Customer A Surprise, Will Take Big Bite Out Of Revenue

BioLife announced results for Q1 2014. Revenue of \$2.1M was about 4% lower yoy although excluding \$609k in non-recurring licensing revenue booked in Q1 2013, total revenue growth was 33%. Even more importantly growth in product revenue, which will be the long-term driver of the top-line (as opposed to contract manufacturing revenue), increased by 47% from the \$770k booked in Q1 2013. Product revenue of \$1.13M was just shy of the \$1.21M record set in Q4 2013 and marks the third straight quarter above \$1M. Management reiterated product sales growth guidance of 25% - 35% for the full year.

Meanwhile, contract manufacturing grew 20% to \$933k. Unfortunately contract manufacturing revenue, which has buoyed the top-line over the last few years, will all but disappear for at least the near term. In a surprise announcement, management disclosed in the earnings release and conference call that their major contract manufacturing customer (Organ Recovery Systems) recently notified BLFS that they would no longer utilize the company's manufacturing services. This customer accounted for over 90% of contract manufacturing revenue in 2013. Management expects only ~\$100k more in revenue from this customer which will be booked in Q2. The loss of this customer shaves just over \$3M (35%) from our total revenue estimate in 2014 and drops our out year revenue estimates by 23% - 29%.

As the contract manufacturing business is relatively low-margin (~10% GM), the hit to gross profit should not be as proportionally large as the decrease in revenue. However, the business from ORS also absorbed excess manufacturing capacity which will now be "paid for" by the core biopreservation products business. Management estimates ~\$700k in overhead will be absorbed in COGS by the core (higher margin) business - so while gross margin should expand with the loss of this manufacturing customer, this will be somewhat limited by the excess capacity cost.

Management noted on the call that they intend to use some of their beefed-up cash balance to increase their sales and marketing teams and in other awareness building efforts - including additional presentations and attendance at industry conferences. They also alluded to looking to add to their portfolio of products - either organically or through acquisition, although no specific details were offered. CEO, Mike Rice also mentioned that they will be pursuing other contract manufacturing customers - and is meeting with a prospective (and potentially significant) customer this coming week.

We expect the net effect of the loss of the manufacturing customer and likely additional spend on marketing and sales activities will result in a sizeable operating loss for the current year. However, the investments in sales/mktg and awareness-building may pay dividends in the near-to-mid term.

Cash

Q1 cash flow used in operating activities was \$894k. Excluding changes in working capital, cash used was \$392k. Cash balance, which was bolstered by the \$13.6M (net) equity issuance in March, stood at \$12.8M at Q1 quarter end. The balance sheet is also debt-free following the conversion of debt (and interest) to equity during the quarter.

Moving Price Target from \$11/share to \$7.50/share

Loss of the significant previously expected revenue from the contract manufacturing customer has resulted in our calculated value falling from \$11/share to \$7.50/share. However, we do not believe the extent of the recent sell-off is warranted or reflected in the fundamentals and potential of the company. We remind investors that BLFS's biopreservation media, not contract manufacturing, is the core business that will drive revenue and earnings over the long term. Biopreservation media sales grew at a CAGR of 26% from 2011 to 2013 and, per management's guidance, should grow another 25% - 35% in 2014 (we also note that mgmt's guidance has erred on the side of conservative in the past). Product sales have also grown fairly consistently on a sequential basis. This is indicative of growing uptake of their biopreservation media in clinical trial-stage products as well as in the hair restoration field. Their list of customers continues to grow, which included Parcels Laboratories and Adaptimmune during Q1.

We also reiterate that we have yet to model any revenue contribution related to BLFS supplying their cryopreservation for an approved therapy. If and when that happens, this could provide significant upside to the historical and our estimated ~30% product sales growth. BLFS has a lot of shots on goal with their media being used in about 100 hospital-approved and clinical trial stage products and therapies including several Phase II and

Phase III trials. Similarly, we have yet to incorporate an assumed contribution from SAVSU or any other potential complementary or supplementary revenue opportunities that could come online in the future.

As such and despite the loss of this major contract manufacturing customer, we think the massive recent sell-off was overdone. Our price target has moved to \$7.50/share (see our valuation methodology below). We are maintaining our Outperform rating.

BLFS To Launch New Thermal Shipper Tracking & Monitoring Service

In April BioLife announced that they will launch a new thermal shipping monitoring and tracking service called "biologistex". The official launch will happen this week at the 20th ISCT Annual Meeting in Paris.

The service encompasses the SAVSU thermal transport containers (in Q3 2013 BLFS became an exclusive distributor of SAVSU containers) with embedded monitoring sensors and a cloud-based web portal. The SAVSU containers ("EVO") have configurations to maintain temperatures at 2-8^o C or approximately -80^o C. The monitoring sensors are embedded in the containers and provide information on temperature, tilt, pressure and location - as well as other information to assure the integrity of the container and biological sample throughout the entire transportation process. The monitoring information is transmitted to a cloud-based web portal where it is available for direct access to customers. BLFS did not disclose specific details about revenue model but did note that the EVO containers will be available to rent on a monthly basis.

BLFS will be addressing a frozen packaging materials market that remains highly antiquated and mostly dominated by the use of dry ice in Styrofoam containers. Relative flimsy and unreliable packaging can often result in temperature excursions inside the container and damage to the container during transport and handling. These can be detrimental to the health of the specimen sample inside. Sample integrity is often critical, particularly in the case of clinical trials where strict protocols means patient samples may not be able to be redone if lost or damaged - which can add more cost and time to potentially already expensive and lengthy trials.

While non-optimized packaging remains common, the industry is shifting towards more reliable containers partly as a result of a major increase in the number of temperature-controlled biological products - which offers an opportunity for SAVSU and BLFS. According to the Biopharma Cold Chain Sourcebook, published by Pharmaceutical Commerce, cold-chain biopharmaceutical distribution is expected to grow 55% from 2010 to 2016.

In contrast to run-of-the-mill retail coolers, the EVO containers were developed to be highly durable (the company [website](#) has a compelling video that demonstrates just how durable), to minimize risk of temperature excursions and, with the available monitoring, customers can be assured of sample health as well as the location of the container in real-time. Availability of the two container configurations provides another advantage as most biotech products (including vaccines and blood products) must be kept cold but not frozen (i.e. 2-8^o) while others must be kept frozen.

We view biologistex as a possible complementary revenue opportunity for BLFS and offering potential synergies with its core cryopreservation customer base - particularly as BLFS's cryopreservation media are being used in over 100 clinical trials. And as each of these markets are closely related and significant in terms of both current size and expected future growth, the marriage of the two offerings under BLFS's umbrella provides the potential to steepen the rate of the company's already robust product revenue growth and leverage their current operational infrastructure.

VALUATION / RECOMMENDATION

Our comparable group used to value BLFS consists of direct competitors as well as small stem cell therapeutics and regenerative medicine companies. Our valuation metrics include enterprise value-to-sales (EV/Sales) and price-to-sales (P/Sales) multiples using sales at trailing twelve months (ttm), estimated 2014, and estimated 2015 (estimates from analyst forecasts).

Based on these six metrics, BioLife is valued between approximately \$3/share and \$13/share. Average valuation of all six metrics is about \$7.50/share. BLFS currently trades at approximately \$2.00, which is below what we calculate to be fair value. We are maintaining our Outperform rating. Our price target is \$7.50/share.

METRIC	TICKER			Average	Implied BLFS pps
	CYRX	ICEL	PLI		
EV/Sales (ttm)	13.4	11.4	25.2	16.7	\$13.59
EV/Sales (2014 E)	10.9	6.7	13.5	10.3	\$6.47
EV/Sales (2015 E)	2.4	3.4	11.0	5.6	\$5.00
P/Sales (ttm)	12.5	14.0	26.9	17.8	\$13.27
P/Sales (2014 E)	10.1	3.4	6.0	6.5	\$4.26
P/Sales (2015 E)	2.2	4.4	4.9	3.8	\$2.66
				Avg.	\$7.54

FINANCIAL MODEL

BioLife Solutions Inc.

	2013 A	Q1A	Q2E	Q3E	Q4E	2014 E	2015 E	2016 E	2017 E
Product Sales & Ctret Manuf	\$8,340.2	\$2,065.0	\$1,302.2	\$1,357.4	\$1,457.1	\$6,181.7	\$8,294.5	\$11,546.6	\$15,316.3
<i>YOY Growth</i>	47.8%	33.2%	-44.1%	-37.5%	-36.3%	-25.9%	34.2%	39.2%	32.6%
Licensing Revenue	\$609.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<i>YOY Growth</i>	2945.8%	-	-	-	-	-	-	-	-
Total Revenues	\$8,949.4	\$2,065.0	\$1,302.2	\$1,357.4	\$1,457.1	\$6,181.7	\$8,294.5	\$11,546.6	\$15,316.3
<i>YOY Growth</i>	58.0%	-4.4%	-44.1%	-37.5%	-36.3%	-30.9%	34.2%	39.2%	32.6%
Cost of Product Sales	\$5,186.5	\$1,161.6	\$680.7	\$667.2	\$697.1	\$3,206.7	\$3,929.3	\$4,979.1	\$6,183.3
Gross Income	\$3,762.9	\$903.4	\$621.6	\$690.2	\$760.0	\$2,975.1	\$4,365.2	\$6,567.5	\$9,133.0
<i>Gross Margin</i>	42.0%	43.7%	47.7%	50.8%	52.2%	48.1%	52.6%	56.9%	59.6%
R&D	\$487.8	\$167.3	\$172.0	\$169.0	\$188.0	\$696.3	\$705.0	\$730.0	\$825.0
<i>% R&D</i>	5.5%	8.1%	13.2%	12.5%	12.9%	11.3%	8.5%	6.3%	5.4%
Selling & Mktg	\$841.5	\$241.4	\$245.0	\$285.0	\$315.0	\$1,086.4	\$1,111.5	\$1,316.3	\$1,546.9
<i>% Sell&Mktg</i>	9.4%	11.7%	18.8%	21.0%	21.6%	17.6%	13.4%	11.4%	10.1%
G&A	\$2,719.0	\$863.7	\$848.0	\$861.0	\$888.0	\$3,460.7	\$3,583.2	\$3,937.4	\$4,671.5
<i>% G&A</i>	30.4%	41.8%	65.1%	63.4%	60.9%	56.0%	43.2%	34.1%	30.5%
Operating Income	(\$285.3)	(\$369.1)	(\$643.4)	(\$624.8)	(\$631.0)	(\$2,268.4)	(\$1,034.5)	\$583.8	\$2,089.6
<i>Operating Margin</i>	-3.2%	-17.9%	-49.4%	-46.0%	-43.3%	-36.7%	-12.5%	5.1%	13.6%
Total Other Inc. (Exp.)	(\$798.8)	(\$190.3)	\$10.0	\$30.0	\$30.0	(\$120.3)	\$125.0	\$100.0	\$75.0
Pre-Tax Income	(\$1,084.1)	(\$559.4)	(\$633.4)	(\$594.8)	(\$601.0)	(\$2,388.7)	(\$909.5)	\$683.8	\$2,164.6
Taxes	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<i>Tax Rate</i>	-	-	-	-	-	-	-	-	-
Net Income	(\$1,084.1)	(\$559.4)	(\$633.4)	(\$594.8)	(\$601.0)	(\$2,388.7)	(\$909.5)	\$683.8	\$2,164.6
<i>YOY Growth</i>	-34.7%	7670.5%	124.0%	91.9%	24.1%	120.3%	-61.9%	-175.2%	216.5%
<i>Net Margin</i>	-12.1%	-27.1%	-48.6%	-43.8%	-41.2%	-38.6%	-11.0%	5.9%	14.1%
EPS	(\$0.22)	(\$0.10)	(\$0.05)	(\$0.05)	(\$0.05)	(\$0.23)	(\$0.06)	\$0.04	\$0.13
<i>YOY Growth</i>	-35.1%	-	-	-	-	6.1%	-73.6%	-169.6%	200.9%
Diluted Shares O/S	5,008	5,569	12,000	12,010	12,020	10,400	15,000	16,200	17,040

Brian Marckx, CFA

MANAGEMENT

Michael Rice

Chairman & Chief Executive Officer

Mike Rice became president and chief executive officer and a member of our Board of Directors in August 2006, and Chairman in August 2007. He has more than 20 years of leadership and entrepreneurial experience in the medical and high tech industries. He was most recently the senior business development manager for medical and wireless products at AMI Semiconductor (NASDAQ:AMIS). Mr. Rice also served as the director of marketing and business development at Cardiac Science, Inc., a manufacturer of automated external defibrillators. Prior to that, he was the Vice President, Sales and Marketing for TEGRIS Corporation, a privately held network services provider. Mr. Rice also spent 12 years at Physio Control Corporation in several sales and marketing management roles prior to its acquisition by Medtronic Inc.

Aby J. Mathew, Ph.D.

Sr. Vice President and Chief Technology Officer

Dr. Mathew was part of the founding team of BioLife Solutions, and is a co-developer of BioLife's biopreservation media solutions. He is a co-inventor on multiple issued and pending patents related to methods, devices, and formulations for the preservation of cells, tissues, and organs. He holds a Ph.D. in Biological Sciences within the Biochemistry, Cell and Molecular Biology Program from Binghamton University and a B.S. in Microbiology from Cornell University. Dr. Mathew has been researching low temperature biopreservation since 1994, and his studies contributed to the development of BioLife's current commercial HypoThermosol and CryoStor product platforms and intellectual property foundation. Dr. Mathew was part of the scientific team that linked cell death via apoptosis (programmed cell death) to exposure to hypothermic and/or freezing temperatures. These discoveries were integral to the development of BioLife's improved intracellular-like biopreservation solutions, and also contributed to improvements in cryosurgical ablation of cancer. Dr. Mathew is currently active in, or previously a member of, the International Society for Cell Therapy (ISCT), AABB (formerly the American Association of Blood Banks), BEST (the Biomedical Excellence for Safer Transfusion collaborative), Tissue Engineering & Regenerative Medicine International Society (TERMIS), Society for Cryobiology, International Society for Biological and Environmental Repositories (ISBER), American Society for Cell Biology, and the Society for In Vitro Biology.

Mark Sandifer

Vice President of Quality

Mark's background is in drug development and clinical administration. He has more than ten years of experience in quality assurance. His keen interest in how the quality aspects of our products support cell therapies comes from his work with Georgetown University Medical Center's bone marrow transplant program in association with the National Marrow Donor Program. He directed BioLife's effort in achieving ISO 13485:2003 certification and led the team effort in ISO 14644 qualification of BioLife's CGMP production facility. Mark holds an M.S. in Biotechnology from Johns Hopkins University and a B.S. in Biology from George Mason University.

Daphne Taylor

Vice President, Finance & Administration, Chief Financial Officer

Daphne Taylor has served as Vice President, Finance & Administration, and Chief Financial Officer since August 2011. She has 20 years experience as a finance professional. Prior to joining BioLife, Ms. Taylor served as Vice President, Corporate Controller and Chief Accounting Officer of Cardiac Science Corporation from November 2005 through January 2009. From April 2002 through November 2005, she held various positions, including Vice President and Corporate Controller for LookSmart, a publicly held Internet technology company. In 2001, Ms. Taylor was Controller at SpeedTrak Communications and prior to that she was Controller for ViroLogic, a publicly held biotechnology company. Ms. Taylor held various finance positions at Core-Mark International, a distribution company, from 1996 to 2000. From 1991 to 1994, she was in public accounting with Coopers & Lybrand and is a licensed CPA. Ms. Taylor holds a B.A. in Management/Accounting from Sonoma State University, California.

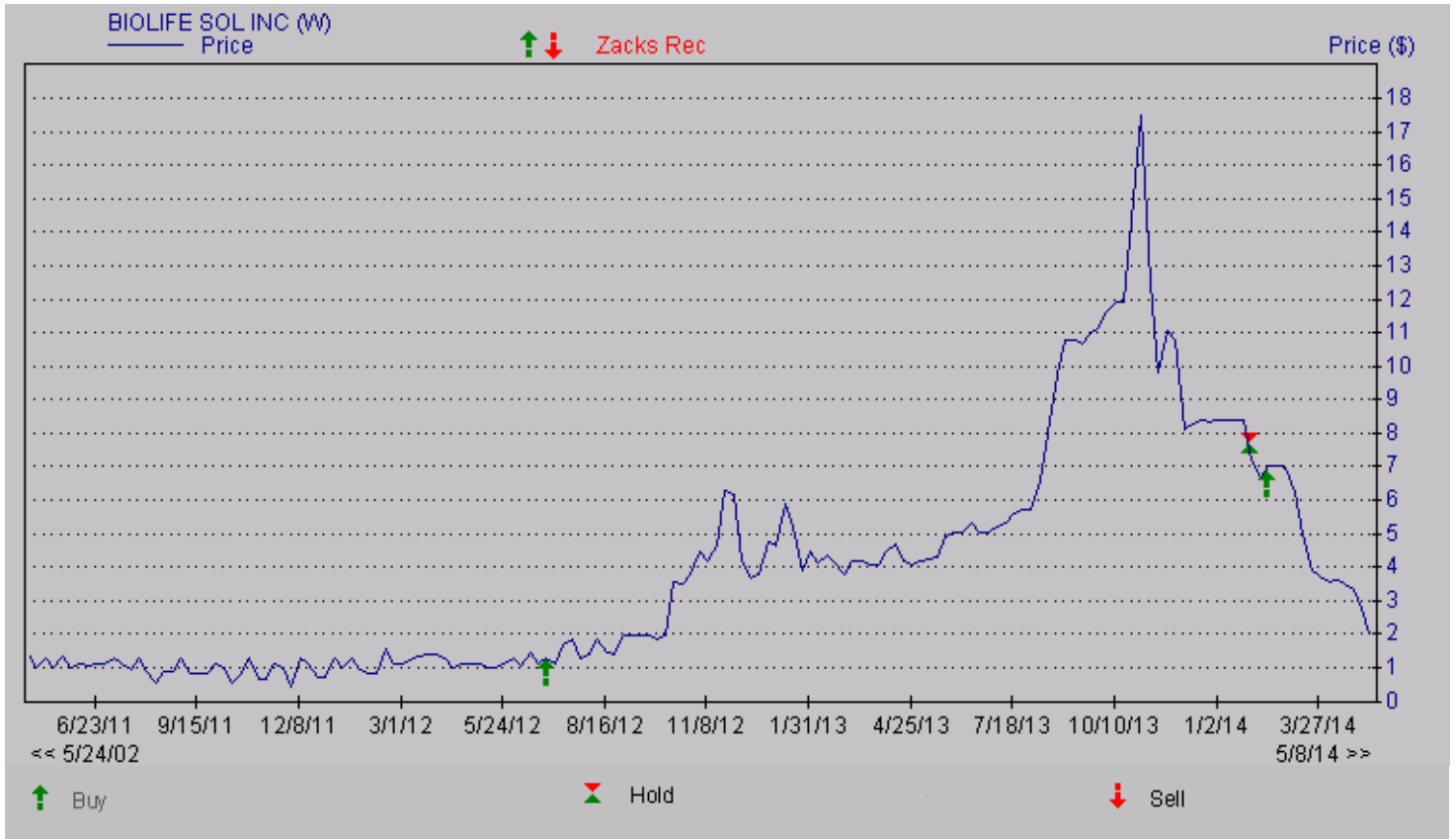
Joe Annicchiarico

Director of Manufacturing

Joe joined BioLife Solutions in December 2011 after serving for six years at MediQuest Therapeutics, Inc. in Bothell, Washington, where he was an integral part of the company's first NDA filing. He spearheaded process scale-up and validation efforts, patent protection, and clinical trial supply chain management. His tenure at MediQuest included time as a Scientist, Formulation Manager, and most recently, as Director of Manufacturing and Clinical Supplies. Prior to his tenure at MediQuest, he worked in speciality chemical sales at Drummond American and spent four years as a formulation

development Chemist at a pair of personal care products companies in New Jersey. Joe earned his Bachelor's Degree in Biology from The Johns Hopkins University in Baltimore, Maryland, in 1997.

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