BIOLIFE SOLUTIONS INC
Form S-1/A
March 05, 2014

As filed with the Securities and Exchange Commission on March 5, 2014

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-1
(Amendment No. 4)
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

BioLife Solutions, Inc.
(Exact name of registrant as specified in its charter)

Delaware	3845	94-3076866
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

3303 Monte Villa Parkway
Bothell, Washington 98021
(425) 402-1400
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Daphne Taylor
Chief Financial Officer
3303 Monte Villa Parkway
Bothell, Washington 98021
(425) 402-1400
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Christopher L. Doerksen
Kimberley R. Anderson
Dorsey & Whitney LLP
701 Fifth Avenue, Suite 6100
Seattle, Washington 98104

Approximate date of commencement of proposed sale to the public: As soon as practicable after this registration statement becomes effective

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box: þ

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier registration

statement for the same offering. o

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. (Check one):

Large Accelerated Filer o	Accelerated Filer o	Non-Accelerated Filer o (Do not check if a smaller reporting company)	Smaller Reporting Company þ

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Proposed maximum aggregate offering price(1)	Amount of registration fee	
Units, each consisting of one share of common stock, $0.001 par value and one-half of one common stock warrant (2)			
Shares of common stock included as part of the units (3)	15,050,000	1,939	
Common stock warrants included as part of the units			
Shares of common stock acquirable upon exercise of the common stock warrants(3)	8,879,500	1,144	
TOTAL	$23,929,500	$3,083	(4)

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(1) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended. Includes estimated proceeds from the exercise of the common stock warrants.

(2) No fee pursuant to Rule 457(g) under the Securities Act of 1933, as amended.

(3) Pursuant to Rule 416 under the Securities Act of 1933, as amended, the securities being registered hereunder include such indeterminate number of additional shares of common stock as may be issued after the date hereof as a result of stock splits, stock dividends or similar transactions.

(4) Previously paid.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended (the “Securities Act”), or until this Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

The information contained in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and we are not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject To Completion, Dated March 5, 2014

PRELIMINARY PROSPECTUS

BioLife Solutions, Inc.

2,150,000 Units
Each Unit Consisting of
One Share of Common Stock and
One-Half of One Warrant to Purchase One Share of Common Stock

We are offering 2,150,000 units, each unit consisting of one share of common stock, $0.001 par value and one-half of one common stock warrant at a public offering price of $ [ ] per unit. The warrants will become exercisable and separately transferable from the shares upon the closing of this offering. At any time until five years following the date of the closing, each whole warrant entitles the holder to purchase one share at an exercise price of $[ ], subject to adjustment. The units will not be certificated. The shares of common stock and the warrants will be immediately separable and issued separately.

Our common stock has been quoted on the OTCQB, under the symbol “BLFS”. We have applied to list our common stock on the Nasdaq Capital Market under the symbol “BLFS”. As of March 4 , 2014 the last reported sale price of our common stock was $6.50 per share on the OTCQB. We do not intend to apply for listing of the warrants on any securities exchange or other trading system.

We have retained Ladenburg Thalmann & Co. Inc. to act as our exclusive placement agent in connection with this offering until the expiration date of the offering. We intend to enter into a placement agency agreement with the placement agent, relating to the units offered by this prospectus. The placement agent is not purchasing or selling any of our units pursuant to this prospectus but will use its best efforts to solicit offers to purchase the units being offered. Therefore, we will enter into a purchase agreement directly with investors in connection with this offering and confirmations and definitive prospectuses will be delivered, or otherwise made available, to all purchasers who agree to purchase units, informing the purchasers of the closing date as to such units. This best efforts offering does not have a minimum purchase requirement and therefore is not certain to raise any specific amount. We will pay the placement agent a cash fee equal to: (i) 7% of aggregate gross proceeds of $1.00 up to $5,000,000 to us from the sale of the units; (ii) 8% of aggregate gross proceeds of $5,000,001 up to $10,000,000 to us from the sale of the units; and (iii) 10% of the incremental amount of aggregate gross proceeds above $10,000,000 to us from the sale of units. In addition, we will grant the placement agent or its designees warrants to purchase the number of shares that is equivalent to 3% of the number of shares sold in the transaction (excluding any shares of common stock underlying warrants issued in this transaction) at an exercise price equal to 125% of the per unit price paid in the offering by investors. See “Plan of Distribution” beginning on page 45 of this prospectus for more information regarding this arrangement.

Investing in our common stock involves a high degree of risk. You should read this entire prospectus carefully, including the section entitled "Risk Factors" beginning on page 5 of this prospectus.

	Per Unit	Total
Public offering price	$ [ ]	$ [ ]
Placement agent's fees(1)	$ [ ]	$ [ ]
Proceeds to us, before expenses(2)	$ [ ]	$ [ ]

(1) For the purpose of estimating the placement agent's fees, we have assumed that they will receive their maximum commission on all sales made in the offering. We have agreed to reimburse the placement agent's expenses in an amount not to exceed 1% of the aggregate gross proceeds raised in the offering. See "Plan of Distribution" beginning on page 45 of this prospectus for more information regarding this arrangement.

(2) We estimate the total expenses of this offering, excluding the placement agent fees, will be approximately $647,000. Because there is no minimum offering amount required as a condition to closing in this offering, the actual public offering amount, placement agent fees, and proceeds to us, if any, are not presently determinable and may be substantially less than the total maximum offering set forth above. Once the offering price has been determined, the unit offering price and warrant exercise price will remain fixed for the duration of the offering. See "Plan of Distribution" beginning on page 45 of this prospectus for more information on this offering and the placement agent arrangements.

This offering will terminate on March 31, 2014, unless the offering is fully subscribed before that date or we decide to terminate the offering prior to that date. In either event, the offering may be closed without further notice to you. We will not complete this offering unless our application to list on the NASDAQ Capital Market is approved. We expect that delivery of the units being offered pursuant to this prospectus will be made to the purchasers on or about [ ], 2014. Pursuant to an escrow agreement among us, the placement agent and Signature Bank, as escrow agent, all funds received in payment for units sold in this offering must be submitted by subscribers to a non-interest bearing escrow account, and will be held by the escrow agent until we and the placement agent notify the escrow agent that this offering has closed. If the offering does not close (either in total or as to any subscriber), or is terminated, the escrow agent will promptly return all funds to such subscriber or to all subscribers, as applicable, without interest or offset.

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

Ladenburg Thalmann & Co. Inc.

The date of this prospectus is [ ], 2014

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You should rely only on the information contained in this prospectus that we have authorized for use in connection with this offering. Neither we nor the placement agent has authorized any other person to provide you with additional or different information. If anyone provides you with different or inconsistent information, you should not rely on it. Neither we nor the placement agent is making an offer to sell these securities in any jurisdiction where an offer or sale is not permitted. You should assume that the information in this prospectus is accurate only as of the date on the front cover of this prospectus, regardless of the time of delivery of this prospectus or any sale of our securities. Our business, financial condition, results of operations and prospects may have changed since that date.

Some of the industry and market data contained in this prospectus are based on independent industry publications or other publicly available information, while other information is based on our internal sources. Although we believe that each source is reliable as of its respective date, the information contained in such sources has not been independently verified, and neither we, nor the placement agent can assure you as to the accuracy or completeness of this information.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information you should consider before buying shares of our securities. You should read the entire prospectus carefully, especially the "Risk Factors" section and our financial statements and the related notes appearing at the end of this prospectus, before deciding to invest in shares of our securities. Unless otherwise noted, all share and per share data in this prospectus (i) gives effect to the 1-for-14 reverse stock split of our common stock effected on January 29, 2014, which converted each block of 14 shares of the common stock issued and outstanding as of the close of business on January 29, 2014 into one share and is subject to adjustments for fractional shares, see "Recent Developments – Reverse Stock Split" below; (ii) gives effect to the issuance of approximately 2,037,053 units to two investors in exchange for the conversion of $10.6 million principal amount of outstanding promissory notes and approximately $3.7 million of interest accrued thereon, assuming an initial public offering price for the units in this offering of $7.00 per unit and a conversion date of March 14, 2014; and (iii) excludes any shares of common stock issuable pursuant to the consulting agreement discussed in "Management's Discussion and Analysis – Contractual Obligations." For more information about our reverse stock split, see "Recent Developments" below. Unless the context provides otherwise, all references to "BioLife," "we," "us," "our," or similar terms, refer to BioLife Solutions, Inc. In this prospectus, all references to "$" or "dollars" mean the U.S. dollar, and unless otherwise indicated all currency amounts in this prospectus are stated in U.S. dollars.

About Our Company

We develop, manufacture and market patented hypothermic storage and cryopreservation solutions for cells and tissue. Our product offerings include:

Patented biopreservation media products for cells, tissues, and organs
Generic formulations of blood stem cell freezing media products
Custom product formulation and custom packaging services
Precision thermal packaging products
Contract aseptic manufacturing formulation, fill, and finish services of liquid media products

We market our proprietary HypoThermosol® FRS and CryoStor®, generic BloodStor®, and SAVSU®'s biopreservation media products and precision thermal packaging products to the biobanking, drug discovery, and regenerative medicine markets, including hospital-based stem cell transplant centers, pharmaceutical companies, cord blood and adult stem cell banks, hair transplant centers, and suppliers of cells to the drug discovery, toxicology testing and diagnostic markets. All of our products are serum-free and protein-free, fully defined, and are manufactured under current Good Manufacturing Practices ("cGMP") using United States Pharmacopeia ("USP")/Multicompendial or the highest available grade components.

Our patented biopreservation media products are formulated to reduce preservation-induced, delayed-onset cell damage and death. Our platform enabling technology provides our customers significant shelf life extension of biologic source material and final cell products, and also greatly improved post-preservation cell, tissue, and organ viability and function. We believe that our products have been incorporated into the manufacturing, storage, shipping, freezing, and clinical delivery processes of over 100 hospital approved or clinical trial stage regenerative medicine applications.

The discoveries made by our scientists and consultants relate to how cells, tissues, and organs respond to the stress of hypothermic storage, cryopreservation, and the thawing process. These discoveries enabled the formulation of truly innovative biopreservation media products that protect biologic material from preservation-related cellular injury, much of which is not apparent immediately after return to normothermic body temperature. Our product formulations

have demonstrated remarkable reduction in apoptotic (programmed) and necrotic (pathologic) cell death mechanisms and are enabling the clinical and commercial development of dozens of innovative regenerative medicine products.

We were incorporated in Delaware in 1987 under the name Trans Time Medical Products, Inc. In 2002, the Company, then known as Cryomedical Sciences, Inc., and engaged in manufacturing and marketing cryosurgical products, completed a merger with our wholly-owned subsidiary, BioLife Solutions, Inc., which was engaged as a life sciences tools provider. Following the merger, we changed our name to BioLife Solutions, Inc. We do not have any subsidiaries.

Our principal executive offices are located at 3303 Monte Villa Parkway, Suite 310, Bothell, Washington 98021 and the telephone number is (425) 402-1400. Information about us is available on our internet website www.biolifesolutions.com. The information contained on our website or that can be accessed through our website does not constitute part of this prospectus and is not incorporated in any manner into this prospectus.

Recent Developments

Reverse Stock Split

On January 29, 2014, we effected a 1-for-14 reverse stock split of our common stock. No fractional shares of our common stock will be issued as a result of the reverse stock split. In the event the reverse stock split leaves a stockholder with a fraction of a share, the number of shares due to the stockholder will be rounded up to the nearest whole share. Unless otherwise indicated, all share and per share numbers set forth in this prospectus have been adjusted to give effect to the reverse stock split and are subject to the foregoing adjustments for fractional shares.

Conversion of Promissory Notes in Exchange for Units

On December 16, 2013, we entered into a note conversion agreement with each of Thomas Girschweiler, an affiliate and former director of the Company, and Walter Villiger, an affiliate of the Company. The noteholders hold, as of December 31, 2013, an aggregate of $14.1 million, including $10.6 million principal amount of outstanding promissory notes and approximately $3.5 million of accrued and unpaid interest under secured convertible multi-draw term loan facility agreements entered into with each of the noteholders on January 11, 2008, which we refer to as the facility agreements. Pursuant to the note conversion agreements, the noteholders have agreed to convert on a private placement basis the outstanding indebtedness, including accrued interest thereon through the closing date, into units on substantially similar terms as the offering. In connection with the note conversion, the noteholders will release all security and the facility agreements will be terminated. Such conversion will occur concurrently with the closing of the offering. Cash will be paid in lieu of any fractional units that would otherwise be issuable. On February 11, 2014, Mr. Girschweiler and Mr. Villiger assigned their respective rights and obligations under the promissory notes, the facility agreements and the note conversion agreements to entities wholly-owned and controlled by the noteholders, namely WAVI Holding AG in the case of Mr. Villiger and Taurus4757 GmbH in the case of Mr. Girschweiler.

The Offering

Units:	
Units offered	2,150,000 units, at $[ ] per unit. Each unit consists of one share and one-half of one warrant. This best-efforts offering does not have a minimum purchase requirement and therefore is not certain to raise any specific amount. The units will not be certificated and the shares of common stock and the warrants will be immediately separable and issued separately.
Common Stock:	
Common stock offered	2,150,000 shares
Common stock outstanding before the offering	5,029,920 shares
Common stock outstanding after the offering (including common stock issued pursuant to the note conversion agreements)	9,216,973 shares
Quoting	Our common stock is currently quoted on the OTCQB under the symbol “BLFS”.
Warrants:	
Exercisability	Each whole warrant is exercisable for one share.

Exercise Price	$[ ]
Exercise Period	The warrants become exercisable upon the closing of this offering. The warrants will expire at 11:59 PM, New York Time, on the fifth anniversary of the closing of the offering.
Use of Proceeds:	We intend to use the net proceeds from this offering for general corporate purposes, including working capital.
Risk Factors:	Investing in our common stock involves risks that are described in the "Risk Factors" section beginning on page 5 of this prospectus.
Conditions to Closing:	It is a condition of the closing of this offering that our application to list our shares on the Nasdaq Capital Market has been approved.

Summary Financial Information

The following tables summarize our financial data for the periods presented. The summary statements of operations data for the years ended December 31, 2013 and 2012, and the balance sheet data as of December 31, 2013 and 2012, have been derived from our audited financial statements, which are included elsewhere in this prospectus. The historical results are not necessarily indicative of the results to be expected for any future periods. You should read this data together with our financial statements and the related notes included elsewhere in this prospectus, as well as "Management's Discussion and Analysis of Financial Condition and Operating Results" beginning on page 19 of this prospectus.

Statements of Operations Data

	Years Ended December 31,	
	2013	2012
Total revenue	$8,949,401	$5,662,990
Total operating expenses	4,048,244	3,234,657
Net loss	(1,084,160)	(1,659,586)
Basic and diluted net loss per share(1)	$(0.22)	$(0.33)
Basic and diluted weighted average shares used to calculate net loss per share(1)	5,007,999	4,977,418

(1) The basic and diluted net loss per share and shares used in loss per share calculation have not been adjusted to reflect the conversion of the outstanding promissory notes.

Balance Sheet Data

	December 31,	
	2013	2012
Cash and cash equivalents	$156,273	$196,478
Total assets	3,353,342	3,169,829
Total liabilities	16,624,863	15,655,852
Total shareholders' equity (deficiency)	(13,271,521)	(12,486,023)

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below, together with all of the other information contained in this prospectus, before deciding to invest in our common stock. If any of the following risks materialize, our business, financial condition, results of operation and future prospects will likely be materially and adversely affected. In that event, the market price of our common stock could decline and you could lose all or part of your investment.

Risks Related to Our Business

The majority of our net sales come from a relatively small number of customers and a limited number of market sectors; if we lose any of these customers or if there are problems in those market sectors, our net sales and operating results could decline significantly.

We derived approximately 49% and 46% of our revenue in the fiscal year ended December 31, 2013 and 2012, respectively, from our relationship with one contract manufacturing customer, which we commenced deliveries to in the second quarter of 2012. Our principal customers may vary from period to period, and our principal customers may not continue to purchase products from us at current levels, or at all. Significant reductions in net sales to any of these customers, the loss of our major contract manufacturing customer, or our failure to make appropriate choices as to the customers we serve could seriously harm our business. In addition, we focus our net sales to customers in only a few market sectors. Each of these sectors is subject to macroeconomic conditions as well as trends and conditions that are sector specific. Shifts in the performance of a sector served by us, as well as the economic, business and/or regulatory conditions that affect the sector, or our failure to choose appropriate sectors can particularly impact us. Any weakness in the market sectors in which our customers are concentrated could affect our business and results of operations.

We have a history of losses and may never achieve or maintain profitability.

We have incurred annual operating losses since inception, and may continue to incur operating losses. For the fiscal years ended December 31, 2013 and December 31, 2012, we had net losses of $1,084,160 and $1,659,586, respectively. As of December 31, 2013, our accumulated deficit was approximately $56.9 million. Of this amount, approximately $19 million has accumulated since our merger in 2002. We may not be able to successfully achieve or sustain profitability. Successful transition to profitable operations is dependent upon achieving a level of revenues adequate to support our cost structure.

We may need additional capital to reach and maintain a sustainable level of positive cash flow and if we raise such additional capital through the issuance of equity or convertible debt securities, your ownership will be diluted, and equity securities issued may have rights, preferences and privileges superior to the shares.

If we are unable to achieve profitability sufficient to permit us to fund our operations and other planned actions, we may be required to raise additional capital. There can be no assurance that such capital would be available on favorable terms, or at all. If we raise additional capital through the issuance of equity or convertible debt securities, the percentage ownership held by existing stockholders may be reduced, and the market price of our common stock could fall as a result of resales of any shares due to an increased number of shares available for sale in the market. Further, our board has the authority to establish the designation of additional shares of preferred stock that may be convertible into common stock without any action by our stockholders, and to fix the rights, preferences, privileges and restrictions, including voting rights, of such shares. Any such additional shares of preferred stock may have rights, preferences and privileges senior to those of outstanding common stock, and the issuance and conversion of any such preferred stock would further dilute the percentage ownership of our stockholders. Debt financing, if available, may involve restrictive covenants, which may limit our operating flexibility with respect to certain business matters. If we

are unable to secure additional capital as circumstances require, we may not be able to fund our planned activities or continue our operations.

There is uncertainty surrounding our ability to successfully commercialize our HypoThermosol® FRS, CryoStor® and BloodStor® biopreservation media products, biopreservation thermal packaging products and contract manufacturing services.

Our growth depends, in part, on our continued ability to successfully develop, commercialize and market our HypoThermosol® FRS, CryoStor®, and BloodStor® biopreservation media products, precision thermal packaging products and contract and manufacturing services. Even in markets that do not require us to obtain regulatory approvals, our products will not be used unless they present an attractive alternative to competitive products and the benefits and cost savings achieved through their use outweigh the cost of our products. If we are unable to develop and sustain a market for our products, this will have a material adverse effect on our results of operations and our ability to continue and grow our business.

The success of our HypoThermosol® FRS and CryoStor® biopreservation media products is dependent, in part, on the commercial success of new regenerative medicine technologies.

Our HypoThermosol® FRS and CryoStor® biopreservation media products are marketed to biotechnology companies and research institutions engaged in research and development of cell, gene and tissue engineering therapies. The end-products or therapies developed by these biotechnology companies and research institutions are subject to substantial regulatory oversight by the United States Food and Drug Administration ("FDA") and other regulatory bodies, and many of these therapies are years away from commercialization. Thus demand, if any, for HypoThermosol® FRS and CryoStor® is expected to be limited for several years. Failure of the end-products that use our biopreservation media products to receive regulatory approvals and be successfully commercialized will have an adverse effect in the demand for our products.

We face significant competition.

The life sciences industry is highly competitive. We anticipate that we will continue to face increased competition as existing companies develop new or improved products and as new companies enter the market with new technologies. Many of our competitors are significantly larger than us and have greater financial, technical, research, marketing, sales, distribution and other resources than us. There can be no assurance that our competitors will not succeed in developing or marketing technologies and products that are more effective or commercially attractive than any that are being developed or marketed by us, or that such competitors will not succeed in obtaining regulatory approval, or introducing or commercializing any such products, prior to us. Such developments could have a material adverse effect on our business, financial condition and results of operations. Also, even if we are able to compete successfully, there can be no assurance that we could do so in a profitable manner.

We are dependent on outside suppliers for all of our manufacturing supplies.

We rely on outside suppliers for all of our manufacturing supplies, parts and components. Although we believe we could develop alternative sources of supply for most of these components within a reasonable period of time, there can be no assurance that, in the future, our current or alternative sources will be able to meet all of our demands on a timely basis. Unavailability of necessary components could require us to re-engineer our products to accommodate available substitutions which could increase costs to us and/or have a material adverse effect on manufacturing schedules, products performance and market acceptance. In addition, an uncorrected defect or supplier's variation in a component or raw material, either unknown to us or incompatible with our manufacturing process, could harm our ability to manufacture products. We might not be able to find a sufficient alternative supplier in a reasonable time period, or on commercially reasonable terms, if at all. If we fail to obtain a supplier for the components of our products, our operations could be disrupted.

Our success will depend on our ability to attract and retain key personnel.

In order to execute our business plan, we must attract, retain and motivate highly qualified managerial, scientific, manufacturing, and sales personnel. If we fail to attract and retain skilled scientific and sales personnel, our sales efforts will be hindered. Our future success depends to a significant degree upon the continued services of key scientific and technical personnel. If we do not attract and retain qualified personnel we will not be able to achieve our growth objectives.

If we were to be successfully sued related to our products or operations, we could face substantial liabilities that may exceed our resources.

We may be held liable if any of our products or operations cause injury or death. These risks are inherent in the development of life sciences industry products. We currently maintain commercial general and umbrella liability policies with combined limits of $7 million per occurrence and in the aggregate, in addition to a $5 million per claim and annual aggregate product liability insurance policy consistent with industry standards. When necessary for our products, we intend to obtain additional product liability insurance. Insurance coverage may be prohibitively expensive, may not fully cover potential liabilities or may not be available in the future. Inability to obtain sufficient insurance coverage at an acceptable cost or otherwise to protect against potential product liability claims could prevent or inhibit the commercialization of our products. If we were to be sued for any injury caused by or associated with our products or operations, or if our existing litigation proceeds, the litigation could consume substantial time and attention of our management, and the resulting liability could have a material adverse effect on us.

Regulatory or other difficulties in manufacturing could have an adverse effect upon our expenses and our product revenues.

We currently manufacture our products ourselves. The manufacture of our products is difficult, complex and highly regulated. To support our current and prospective clinical customers, we intend to comply with cGMP in the manufacture of our products. Our ability to adequately and in a timely manner manufacture and supply our products is dependent on the uninterrupted and efficient operation of our facilities and those of third-parties producing supplies upon which we rely in our manufacturing. The manufacture of our products may be impacted by:

availability or contamination of raw materials and components used in the manufacturing process, particularly those for which we have no other source or supplier;
the ongoing capacity of our facilities;
our ability to comply with regulatory requirements, including our ability to comply with cGMP;
inclement weather and natural disasters;
changes in forecasts of future demand for product components;
potential facility contamination by microorganisms or viruses;
updating of manufacturing specifications; and
product quality success rates and yields.

If the efficient manufacture and supply of our products is interrupted, we may experience delayed shipments or supply constraints. If we are at any time unable to provide an uninterrupted supply of our products to customers, our customers may be unable to supply their end-products incorporating our products to their patients and other customers, which could materially and adversely affect our product sales and results of operations.

We are registered with FDA as a contract manufacturer. Our contract manufacturing customers may require us to comply with cGMP requirements and may audit our compliance with cGMP standards. If a customer finds us to be out of compliance with cGMP standards, this could have a material adverse effect on our ability to retain and attract contract manufacturing customers.

Failure to comply with the covenants and conditions of promissory notes issued by us to the noteholders could result in the acceleration of our outstanding indebtedness, and we may not have sufficient funds available to repay the amounts due.

Pursuant to the note conversion agreement, we have agreed to issue units to each of the noteholders in exchange for the conversion of $10.6 million principal amount of outstanding promissory notes and accrued and unpaid interest. Until the promissory notes are converted, they remain secured by all of our assets. An event of default, including from the failure to observe or comply with any material covenant or condition in the promissory notes or the facility agreements, could, if not cured or waived, result in the acceleration of the outstanding indebtedness and the loss of some or all of our assets. If our operations are insufficiently profitable to permit us to pay such notes when due, and these stockholders are unable or unwilling to provide access to additional funds and/or amend the terms of the facility agreements, we would need to find immediate additional sources of capital. There can be no assurance that such capital would be available on favorable terms, or at all. As such, we may have to cease operations and you could lose your investment.

If we become subject to additional regulatory requirements, the manufacture and sale of our products may be delayed or prevented, or we may become subject to increased expenses.

As an ancillary or excipient reagent used in the production, transportation, and infusion of our customers' regulated clinical products, HypoThermosol® FRS, CryoStor®, and BloodStor® are not currently subject to specific FDA or other non-US pre-market approval for drugs, devices, or biologics. In particular, we are not required to sponsor formal prospective, controlled clinical-trials in order to establish safety and efficacy. However, there can be no assurance that we will not be required to obtain approval from the FDA, or foreign regulatory authorities, as applicable, prior to marketing any of our products in the future. Any such requirements could delay or prevent the sale of our products, or may subject us to additional expenses.

We may be adversely affected if our controls over external financial reporting fail or are circumvented.

We regularly review and update our internal controls, disclosure controls and procedures, and corporate governance policies. We are required under the Sarbanes-Oxley Act of 2002 to report annually on our internal control over financial reporting, but as a smaller reporting company we are exempt from the requirement to have our independent accountants attest to our internal control over financial reporting. If it were to be determined that our internal control over financial reporting is not effective, such shortcoming could have an adverse effect on our business and financial results and the price of our common stock could be negatively affected. This reporting requirement could also make it more difficult or more costly for us to obtain certain types of insurance, including director and officer liability insurance, and we may be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. Any system of internal controls, however well designed and operated, is based in part on certain assumptions and can provide only reasonable, not absolute, assurances that the objectives of the system are met. Any failure or circumvention of the controls and procedures or failure to comply with regulation concerning

control and procedures could have a material effect on our business, results of operation and financial condition. Any of these events could result in an adverse reaction in the financial marketplace due to a loss of investor confidence in the reliability of our financial statements, which ultimately could negatively affect the market price of our shares, increase the volatility of our stock price and adversely affect our ability to raise additional funding. The effect of these events could also make it more difficult for us to attract and retain qualified persons to serve on our board and our board committees and as executive officers.

Risks Related to Our Intellectual Property

Our proprietary rights may not adequately protect our technologies and products.

Our commercial success will depend on our ability to obtain patents and/or regulatory exclusivity and maintain adequate protection for our technologies and products in the United States and other countries. We will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that our proprietary technologies and products are covered by valid and enforceable patents or are effectively maintained as trade secrets.

We intend to apply for additional patents covering both our technologies and products, as we deem appropriate. We may, however, fail to apply for patents on important technologies or products in a timely fashion, if at all. Our existing patents and any future patents we obtain may not be sufficiently broad to prevent others from practicing our technologies or from developing competing products and technologies. In addition, the patent positions of life science industry companies are highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. As a result, the validity and enforceability of our patents cannot be predicted with certainty. In addition, we cannot guarantee that:

- we were the first to make the inventions covered by each of our issued patents and pending patent applications;
- we were the first to file patent applications for these inventions;
- others will not independently develop similar or alternative technologies or duplicate any of our technologies;
- any of our pending patent applications will result in issued patents;
- any of our patents will be valid or enforceable;
- any patents issued to us will provide us with any competitive advantages, or will not be challenged by third parties; and
- we will develop additional proprietary technologies that are patentable, or the patents of others will not have an adverse effect on our business.

The actual protection afforded by a patent varies on a product-by-product basis, from country to country and depends on many factors, including the type of patent, the scope of its coverage, the availability of regulatory related extensions, the availability of legal remedies in a particular country and the validity and enforceability of the patents. Our ability to maintain and solidify our proprietary position for our products will depend on our success in obtaining effective claims and enforcing those claims once granted. Our issued patents and those that may be issued in the future, or those licensed to us, may be challenged, invalidated, unenforceable or circumvented, and the rights granted under any issued patents may not provide us with proprietary protection or competitive advantages against competitors with similar products. We also rely on trade secrets to protect some of our technology, especially where it is believed that patent protection is appropriate or obtainable. However, trade secrets are difficult to maintain. While we use reasonable efforts to protect our trade secrets, our employees, consultants, contractors or scientific and other advisors may unintentionally or willfully disclose our proprietary information to competitors. Enforcement of claims that a third party has illegally obtained and is using trade secrets is expensive, time consuming and uncertain. In addition, non-U.S. courts are sometimes less willing than U.S. courts to protect trade secrets. If our competitors independently develop equivalent knowledge, methods and know-how, we would not be able to assert our trade secrets against them and our business could be harmed.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting and defending patents on all of our products in every jurisdiction would be prohibitively expensive. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products. These products may compete with our products, and may not be covered by any patent claims or other intellectual property rights.

The laws of some non-U.S. countries do not protect intellectual property rights to the same extent as the laws of the United States, and many companies have encountered significant problems in protecting and defending such rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biotechnology, which could make it difficult for us to stop the infringement of our patents. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business.

If we fail to protect our intellectual property rights, our competitors may take advantage of our ideas and compete directly against us.

Our success will depend to a significant degree on our ability to secure and protect intellectual property rights and enforce patent and trademark protections relating to our technology. While we believe that the protection of patents and trademarks is important to our business, we also rely on a combination of copyright, trade secret, nondisclosure and confidentiality agreements, know-how and continuing technological innovation to maintain our competitive position. From time to time, litigation may be advisable to protect our intellectual property position. However, these legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep any competitive advantage. Any litigation in this regard could be costly, and it is possible that we will not have sufficient resources to fully pursue litigation or to protect our intellectual property rights. This could result in the rejection or invalidation of our existing and future patents. Any adverse outcome in litigation relating to the validity of our patents, or any failure to pursue litigation or otherwise to protect our patent position, could materially harm our business and financial condition. In addition, confidentiality agreements with our employees, consultants, customers, and key vendors may not prevent the unauthorized disclosure or use of our technology. It is possible that these agreements will be breached or that they will not be enforceable in every instance, and that we will not have adequate remedies for any such breach. Enforcement of these agreements may be costly and time consuming. Furthermore, the laws of foreign countries may not protect our intellectual property rights to the same extent as the laws of the United States.

The patent protection for our products may expire before we are able to maximize their commercial value, which may subject us to increased competition and reduce or eliminate our opportunity to generate product revenue.

The patents for our products have varying expiration dates and, when these patents expire, we may be subject to increased competition and we may not be able to recover our development costs. In some of the larger economic territories, such as the United States and Europe, patent term extension/restoration may be available. We cannot, however, be certain that an extension will be granted or, if granted, what the applicable time period or the scope of patent protection afforded during any extended period will be.

If we are unable to obtain patent term extension/restoration or some other exclusivity, we could be subject to increased competition and our opportunity to establish or maintain product revenue could be substantially reduced or eliminated. Furthermore, we may not have sufficient time to recover our development costs prior to the expiration of our U.S. and non-U.S. patents.

We may incur substantial costs as a result of litigation or other proceedings relating to patent and other intellectual property rights and we may be unable to protect our rights to, or use of, our technology.

If we choose to go to court to stop someone else from using the inventions claimed in our patents or our licensed patents, that individual or company has the right to ask the court to rule that these patents are invalid and/or should not be enforced against that third party. These lawsuits are expensive and would consume time and other resources even if we were successful in stopping the infringement of these patents. In addition, there is a risk that the court will decide that these patents are invalid or unenforceable and that we do not have the right to stop the other party from using the inventions. There is also the risk that, even if the validity or unenforceability of these patents is upheld, the court will refuse to stop the other party on the grounds that such other party's activities do not infringe our rights.

If we wish to use the technology claimed in issued and unexpired patents owned by others, we will need to obtain a license from the owner, enter into litigation to challenge the validity or enforceability of the patents or incur the risk of litigation in the event that the owner asserts that we infringed its patents. The failure to obtain a license to technology or the failure to challenge an issued patent that we may require to discover, develop or commercialize our products may have a material adverse effect on us.

If a third party asserts that we infringed its patents or other proprietary rights, we could face a number of risks that could seriously harm our results of operations, financial condition and competitive position, including:

- patent infringement and other intellectual property claims, which would be costly and time consuming to defend, whether or not the claims have merit, and which could delay a product and divert management's attention from our business;
- substantial damages for past infringement, which we may have to pay if a court determines that our product or technologies infringe a competitor's patent or other proprietary rights;
- a court prohibiting us from selling or licensing our technologies unless the third party licenses its patents or other proprietary rights to us on commercially reasonable terms, which it is not required to do; and
- if a license is available from a third party, we may have to pay substantial royalties or lump-sum payments or grant cross licenses to our patents or other proprietary rights to obtain that license.

The biotechnology industry has produced a proliferation of patents, and it is not always clear to industry participants, including us, which patents cover various types of products or methods of use. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform. If we are sued for patent infringement, we would need to demonstrate that our products or methods of use either do not infringe the patent claims of the relevant patent, and/or that the patent claims are invalid, and/or that the patent is unenforceable and we may not be able to do this. Proving invalidity, in particular, is difficult since it requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents.

U.S. patent laws as well as the laws of some foreign jurisdictions provide for provisional rights in published patent applications beginning on the date of publication, including the right to obtain reasonable royalties, if a patent subsequently issues and certain other conditions are met.

Because some patent applications in the United States may be maintained in secrecy until the patents are issued, because patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing, and because publications in the scientific literature often lag behind actual discoveries, we cannot be certain that others have not filed patent applications for technology covered by our issued patents or our pending applications, or that we were the first to invent the technology.

Patent applications filed by third parties that cover technology similar to ours may have priority over our patent applications and could further require us to obtain rights to issued patents covering such technologies. If another party files a U.S. patent application on an invention similar to ours, we may elect to participate in or be drawn into an interference proceeding declared by the U.S. Patent and Trademark Office to determine priority of invention in the United States. The costs of these proceedings could be substantial, and it is possible that such efforts would be unsuccessful, resulting in a loss of our U.S. patent position with respect to such inventions. Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations. We cannot predict whether third parties will assert these claims against us, or whether those claims will harm our business. If we are forced to defend against these claims, whether they are with or without any merit and whether they are resolved in favor of or against us, we may face costly litigation and diversion of management's attention and resources. As a result of these disputes, we may have to develop costly non-infringing technology, or enter into licensing agreements. These agreements, if necessary, may be unavailable on terms acceptable to us, if at all, which could seriously harm our business or financial condition.

Risks Related to our Common Stock and Other Securities and the Offering

The market for our common stock is limited and our stock price is volatile.

Our common stock, traded on the OTCQB, has historically traded at low average daily volumes, resulting in a limited market for the purchase and sale of our common stock.

The market prices of many publicly traded companies, including emerging companies in the life sciences industry, have been, and can be expected to be, highly volatile. The future market price of our common stock could be significantly impacted by numerous factors, including, but not limited to:

Future sales of our common stock or other fundraising events;
Sales of our common stock by existing shareholders;
Changes in our capital structure, including stock splits or reverse stock splits;
Announcements of technological innovations for new commercial products by our present or potential competitors;
Developments concerning proprietary rights;
Adverse results in our field or with clinical tests of our products in customer applications;
Adverse litigation;
Unfavorable legislation or regulatory decisions;
Public concerns regarding our products;
Variations in quarterly operating results;
General trends in the health care industry; and
Other factors outside of our control.

The actual offering amount, the offering price and the net proceeds to us, if any, in this offering may be substantially less than the amounts set forth above.

Because there is no minimum offering amount or offering price required as a condition to closing in this offering, the actual public offering amount, offering price and net proceeds to us, if any, in this offering are not presently determinable and may be substantially less than the amounts set forth above. We are not required to sell any specific number or dollar amount of the securities offered in this offering, but the placement agent will use its best efforts to sell the securities offered.

A significant percentage of our outstanding common stock is held by two stockholders, who have also provided us with our debt financing facilities, and these stockholders therefore have significant influence on us and our corporate actions.

As of December 31, 2013, two of our existing stockholders, Thomas Girschweiler and Walter Villiger, beneficially owned, collectively, approximately 52.4% of our outstanding shares. In addition, these two stockholders hold, as of December 31, 2013, an aggregate $10.6 million principal amount of outstanding promissory notes and approximately $3.5 million of accrued and unpaid interest under secured convertible multi-draw term loan facility agreements. On December 16, 2013, we entered into note conversion agreements, with each of Mr. Girschweiler and Mr. Villiger. Pursuant to the note conversion agreements, Mr. Girschweiler and Mr. Villiger have agreed to convert on a private placement basis the outstanding indebtedness, including accrued interest thereon, into units pursuant to a private placement on substantially similar terms as the offering. On February 11, 2014, Mr. Girschweiler and Mr. Villiger assigned their respective rights and obligations under the promissory notes, the facility agreements and the note conversion agreements to entities wholly-owned and controlled by the noteholders, namely WAVI Holding AG in the case of Mr. Villiger and Taurus4757 GmbH in the case of Mr. Girschweiler. Following conversion, the beneficial ownership of Messrs. Girschweiler and Villiger will increase from approximately 52.4% to 55.5%, assuming we will sell 2,150,000 units on March 14, 2014 at a price of $7.00 per unit in this offering. If we sell a smaller number of units in this offering, the beneficial ownership of Messrs. Girschweiler and Villiger will be greater. Mr. Girschweiler was also a member of our board until March 5, 2014. Accordingly, these stockholders have had, and will continue to have, significant influence in determining the outcome of any corporate transaction or other matter submitted to the stockholders for approval, including mergers, consolidations and the sale of all or substantially all of our assets, election of directors and other significant corporate actions. In addition, without the consent of these stockholders, we could be prevented from entering into transactions that could be beneficial to us. For more information regarding our principal stockholders, see "Security Ownership of Certain Beneficial Owners and Management" beginning on page 42 of this prospectus.

We may not be able to list our common stock on the Nasdaq Capital Market, in which case this offering will not be completed.

Although we have filed an application to list our common stock on the Nasdaq Capital Market, we do not currently satisfy the shareholders' equity requirement of the Listing Rules of the Nasdaq Capital Market. We will seek to satisfy this requirement by completing this offering and the conversion of our existing indebtedness into equity securities. No assurance can be provided that we will be able to raise sufficient capital to satisfy Nasdaq's shareholders' equity requirement and convert our existing indebtedness or that, if we do satisfy such requirement, that we will satisfy the other listing requirements of the Nasdaq Capital Market and achieve a listing thereon, in which case this offering will not be completed. In addition to specific listing standards, the Nasdaq Capital Market has broad discretionary authority over the initial and continued listing of securities, which it could exercise with respect to the listing of our common stock.

You will experience immediate and substantial dilution in the book value of the shares you purchase in this offering.

The offering price is substantially higher than the net tangible book value per share of our outstanding common stock. As a result, based on our capitalization as of December 31, 2013 you will incur immediate dilution in the book value of the shares you purchase in the offering. Based upon the issuance and sale of 2,150,000 units on an assumed closing date of March 14, 2014 at an assumed initial public offering price of $7.00 per unit, and the issuance of approximately 2,037,053 units to the noteholders at the closing, you will incur immediate dilution of approximately $5.48 in the net tangible book value per share included in such units if you purchase units in this offering. In addition to this offering, subject to market conditions and other factors, we may pursue additional financings in the future, as we continue to build our business, which may result in further dilution to you.

We are at risk of securities class action litigation.

In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because our stock price and those of other biotechnology and life sciences companies have experienced significant stock price volatility in recent years. If we face such litigation, it could result in substantial costs and a diversion of management’s attention and resources, which could harm our business. We do maintain insurance, but the coverage may not be sufficient and may not be available in all instances.

Anti-takeover provisions in our charter documents and under Delaware law could make a third-party acquisition of us difficult.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that may discourage unsolicited takeover proposals that stockholders may consider to be in their best interests. These provisions include the ability of our board to designate the terms of and issue new series of preferred stock without stockholder approval and to amend our bylaws without stockholder approval. Further, as a Delaware corporation, we are subject to Section 203 of the Delaware General Corporation Law, which generally prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the date that the stockholder became an interested stockholder, unless certain specific requirements are met as set forth in Section 203. Collectively, these provisions could make a third-party acquisition of us difficult or could discourage transactions that otherwise could involve payment of a premium over prevailing market prices for our common stock.

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

Our management will have broad discretion as to the application of the net proceeds. Our stockholders may not agree with the manner in which our management chooses to allocate and spend the net proceeds. Moreover, our management may use some of the net proceeds for corporate purposes that may not increase our market value or profitability.

Our use of the offering proceeds may not yield a favorable return on your investment.

We currently intend to use the net proceeds received from the sale of the securities for general corporate purposes, including working capital. Our management has broad discretion over how these proceeds are used and could spend the proceeds in ways with which you may not agree. Pending the use of the proceeds in this offering, we will invest them. However, the proceeds may not be invested in a manner that yields a favorable or any return.

Future sales of our common stock by our existing stockholders may negatively impact the trading price of our common stock.

If a substantial number of our existing stockholders decide to sell shares of their common stock in the public market following the completion of this offering, the price at which our common stock trades could decline. Additionally, the public market's perception that such sales might occur may also depress the price of our common stock. Certain existing stockholders holding approximately 4.5 million shares and options and warrants exercisable within 60 days from December 31, 2013 to purchase 2.4 million shares, after giving effect to the note conversion, will enter into lockup agreements pursuant to which they will agree not to sell shares of our common stock in the public market for a period of 180 days following the completion of this public offering, subject to certain exceptions. There is no public market for the warrants.

There is no active market for trading of the warrants, which will limit the liquidity of the warrants.

There is no established public trading market for the warrants, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the warrants on any securities exchange. Without an active market, the liquidity of the warrants will be limited.

The warrants may not have any value.

The warrants will be exercisable for five years from the date of the closing of the offering at an initial exercise price per share equal to $[ ]. In the event that the price of a share does not exceed the exercise price of the warrants during the period when the warrants are exercisable, the warrants may not have any value.

Holders of the warrants will have no rights as a common stockholder until they acquire our common stock.

Until you acquire shares upon exercise of your warrants, you will have no rights with respect to our common stock. Upon exercise of your warrants, you will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

An effective registration statement may not be in place when an investor desires to exercise warrants, thus precluding such investor from being able to exercise his, her or its warrants at that time.

No warrant held by an investor will be exercisable and we will not be obligated to issue common stock unless at the time such holder seeks to exercise such warrant, a prospectus relating to the common stock issuable upon exercise of the warrant is current (or an exemption from registration is available) and the common stock has been registered or qualified or deemed to be exempt under the securities laws of the state of residence of the holder of the warrants. Under the terms of the warrant agreement, we have agreed to use our best efforts to meet these conditions and to maintain a current prospectus relating to the common stock issuable upon exercise of the warrants until the expiration of the warrants. However, we cannot assure you that we will be able to do so, and if we do not maintain a current prospectus related to the common stock issuable upon exercise of the warrants (and an exemption from registration is not available), holders will be unable to exercise their warrants and we will not be required to net cash settle any such warrant exercise. If we are unable to issue the shares upon exercise of the warrants by an investor because there is no current prospectus relating to the common stock issuable upon exercise of the warrant (and an exemption from registration is not available) or the common stock has not been registered or qualified or deemed to be exempt under the securities laws of the state of residence of the holder of the warrants, the warrants will not expire until ten days after the date we are first able to issue the shares. Nevertheless, because an investor may not be able to exercise the warrants at the most advantageous time, the warrants held by an investor may have no value, the market for such warrants may be limited and such warrants may expire worthless.

Risks Associated with Our Reverse Stock Split

On January 29, 2014, we effected a 1 for 14 reverse stock split of our common stock. There are risks associated with a reverse stock split.

There are certain risks associated with the reverse stock split, including the following:

The board has not reduced the number of authorized shares of common stock in the same proportion as the reverse split, and as a result, we have additional authorized shares of common stock that the board could issue in future without stockholder approval, and such additional shares could be issued, among other purposes, in financing transactions or to resist or frustrate a third-party transaction that is favored by a majority of the independent stockholders. This could have an anti-takeover effect, in that additional shares could be issued, within the limits imposed by applicable law, in one or more transactions that could make a change in control or takeover of us more difficult.

There can be no assurance that the reverse stock split will achieve the benefits that we hope it will achieve.

The reverse stock split may decrease the liquidity of the shares of our common stock.

The liquidity of the shares of our common stock may be affected adversely by the reverse stock split given the reduced number of shares that will be outstanding following the reverse stock split, especially if the market price of our common stock does not increase as a result of the reverse stock split. In addition, the reverse stock split may increase the number of stockholders who own odd lots of our common stock, creating the potential for such stockholders to experience an increase in the cost of selling their shares and greater difficulty effecting such sales.

FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements. These forward-looking statements involve a number of risks and uncertainties. We caution readers that any forward-looking statement is not a guarantee of future performance and that actual results could differ materially from those contained in the forward-looking statement. These statements are based on current expectations of future events. Such statements include, but are not limited to, statements about future financial and operating results, plans, objectives, expectations and intentions, costs and expenses, interest rates, outcome of contingencies, financial condition, results of operations, liquidity, business strategies, cost savings, objectives of management and other statements that are not historical facts. You can find many of these statements by looking for words like “believes,” “expects,” “anticipates,” “estimates,” “may,” “should,” “will,” “could,” “plan,” “inten expressions in this prospectus. We intend that such forward-looking statements be subject to the safe harbors created thereby. Examples of these forward-looking statements include, but are not limited to:

anticipated regulatory filings and requirements;
timing and amount of future contractual payments, product revenue and operating expenses;
market acceptance of our products and the estimated potential size of these markets; and
our anticipated future capital requirements and the terms of any capital financing agreements.

These forward-looking statements are based on the current beliefs and expectations of our management and are subject to significant risks and uncertainties. If underlying assumptions prove inaccurate or unknown risks or uncertainties materialize, actual results may differ materially from current expectations and projections. Factors that might cause such a difference include those discussed under “Risk Factors,” as well as those discussed elsewhere in the prospectus.

You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this prospectus.

All subsequent written or oral forward-looking statements attributable to us or any person acting on our behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. We do not undertake any obligation to release publicly any revisions to these forward-looking statements to reflect events or circumstances after the date of this prospectus or to reflect the occurrence of unanticipated events, except as may be required under applicable U.S. securities law. If we do update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect to those or other forward-looking statements.

USE OF PROCEEDS

We estimate that the net proceeds from our sale of units in this offering, assuming a public offering price of $7.00 per unit and all units are sold, after deducting underwriting discounts and estimated offering expenses payable by us, will be approximately $13.1 million. This amount does not include the proceeds which we may receive in connection with the exercise of the warrants. We cannot predict when or if the warrants will be exercised, and it is possible that the warrants may expire and never be exercised. The offering does not specify any minimum sale of any specific number of units and, as a result, the net proceeds actually received by us may be considerably less than the estimated net proceeds above. The principal reasons for this offering are to raise capital for general corporate purposes, including working capital, and to facilitate the listing of our common stock on the Nasdaq Capital Market.

We do not have a specific plan for the use of the net proceeds of this offering; rather we intend to use such net proceeds for general corporate purposes, including working capital.

The following table below sets forth the net proceeds of this offering assuming the sale of 25%, 50%, 75% and 100% of $15,050,000:

	25%	50 %	75 %	100 %
Gross proceeds	$3,762,500	7,525,000	11,287,500	15,050,000
Offering Expenses	$647,172	647,172	647,172	647,172
Placement Agent Fees	$263,375	552,000	878,750	1,255,000
Net Proceeds	$2,851,953	6,325,828	9,761,578	13,147,828

We will have broad discretion over the manner in which the net proceeds of the offering will be applied, and we may not use these proceeds in a manner desired by our shareholders. Although we have no present intention of doing so, future events may require us to reallocate the offering proceeds.

PRICE RANGE OF COMMON STOCK

Our common stock is traded on the OTCQB under the ticker symbol “BLFS.” There is currently no public trading market for our warrants.

We effected a 1 for 14 reverse stock split of our common stock on January 29, 2014. The share and per share information in the table below reflects the reverse stock split.

The following table sets forth the range of high and low quarterly closing sales prices of our common stock for the periods indicated:

	High	Low
Year ended December 31, 2013		
4th Quarter	$19.60	$7.84
3rd Quarter	12.18	5.04
2nd Quarter	5.74	4.06
1st Quarter	5.88	3.50
Year ended December 31, 2012		
4th Quarter	$6.30	$1.96
3rd Quarter	2.38	0.98
2nd Quarter	1.68	0.98
1st Quarter	1.68	0.56
Year ended December 31, 2011		
4th Quarter	$1.40	$0.28
3rd Quarter	1.26	0.28
2nd Quarter	1.40	0.84
1st Quarter	1.54	0.84

The closing price per share for our common stock on March 4, 2014 as reported by the OTCQB was $6.50.

CAPITALIZATION

The following table sets forth our: (i) cash and cash equivalents; (ii) total assets; (iii) promissory notes payable (iv) components of shareholders' equity (deficiency); (v) total shareholders' equity (deficiency); and (vi) total liabilities and shareholders' equity (deficiency) as of December 31, 2013:

- on an actual basis; as of December 31, 2013;
- on a pro forma as adjusted basis to reflect (i) the sale by us of 2,150,000 units in this offering on an assumed closing date of March 14, 2014, based on an assumed initial public offering price of $7.00 per unit; (ii) the deduction of estimated placement agent fees, commissions and advisory fees and estimated offering expenses payable by us, and (iii) the issuance of 2,037,053 units to the noteholders in exchange for the conversion of $10.6 million principal amount of outstanding promissory notes and accrued and unpaid interest of approximately $3.7 million through the assumed closing date.

You should read this table together with the section of this prospectus entitled "Management's Discussion and Analysis of Financial Condition and Results of Operation", as well as our financial statements and related notes and the other financial information, appearing elsewhere in this prospectus.

	December 31, 2013	
	Actual	Pro Forma as Adjusted
Cash and cash equivalents	$156,273	$13,304,101
Total assets	$3,353,342	$16,501,170
Promissory notes payable, related parties	$10,603,127	$-
Shareholders' equity (deficiency):		
Common stock, $0.001 par value; 150,000,000 shares authorized; 5,029,920 shares issued and outstanding at December 31, 2013 and 2012	$5,030	$9,217
Additional paid-in capital	$43,618,686	$71,021,693
Accumulated deficit	$(56,895,237)	$(57,049,866)
Total shareholders' equity (deficiency)	$(13,271,521)	$13,981,044
Total liabilities and shareholders' equity (deficiency)	$3,353,342	$16,501,170

DILUTION

The difference between the public offering price per share, assuming no value is attributed to the warrants included in the units we are offering by this prospectus, and the pro forma net tangible book value per share after this offering constitutes the dilution to investors in this offering. Such calculation does not reflect any dilution associated with the sale and exercise of warrants. Net tangible book value per share represents the amount of our total tangible assets less total liabilities, divided by the number of shares of common stock outstanding as of December 31, 2013.

Our historical net tangible book value as of December 31, 2013 was $(13.3) million, or approximately $(2.64) per share of common stock, after giving effect to the 1-for-14 reverse stock-split.

The following table illustrates this per share dilution to new investors, assuming the sale of 25%, 50%, 75% and 100% of total gross proceeds of the units being offered hereby, after giving effect to (i) the sale of our units in this offering at an assumed public offering price of $7.00 per unit, (ii) the deduction of estimated placement agent fees and commissions and estimated offering expenses payable by us, and (iii) the issuance of units to the noteholders in exchange for the conversion fo $10.6 million principal amount of outstanding promissory notes and interest of approximately $3.7 million through the assumed conversion date, assuming that no value is attributed to the warrants issued in this offering or in the note conversions:

	25%	50%	75%	100%
Assumed initial public offering price	$7.00	7.00	7.00	7.00
Pro forma net tangible book value per share as of December 31, 2013 (as adjusted for reverse stock split and note conversions)	$0.12	0.12	0.12	0.12
Increase in pro forma as adjusted net tangible book value per share attributable to this offering per share to existing investors	$0.37	0.76	1.10	1.40
Pro forma as adjusted net tangible book value per share after this offering	$0.49	0.88	1.22	1.52
Dilution per share to new investors	$6.51	6.12	5.78	5.48

The following tables set forth, assuming the sale of 25%, 50%, 75% and 100% of the units being offered hereby, on the as adjusted basis described above, as of December 31, 2013, the difference between the number of shares purchased from us, the total consideration paid, and the average price per share paid by the existing stockholders and noteholders, collectively, and by investors purchasing shares in this offering, before deducting estimated placement agent fees and commissions and estimated offering expenses.

	25% Shares Purchased		Total Consideration		
	Number	Percent	Amount	Percent	Average Price Per Share
Existing stockholders and noteholders, collectively	7,066,973	93	55,026,801	94	7.79
New investors	537,500	7	3,762,500	6	7.00
Total	7,604,473	100	58,789,301	100	7.73

50%

	Shares Purchased		Total Consideration		
	Number	Percent	Amount	Percent	Average Price Per Share
Existing stockholders and noteholders, collectively	7,066,973	87	55,026,801	88	7.79
New investors	1,075,000	13	7,525,000	12	7.00
Total	8,141,973	100	62,551,801	100	7.68

75%

	Shares Purchased		Total Consideration		
	Number	Percent	Amount	Percent	Average Price Per Share
Existing stockholders and noteholders, collectively	7,066,973	81	55,026,801	83	7.79
New investors	1,612,500	19	11,287,500	17	7.00
Total	8,679,473	100	66,314,301	100	7.64

100%

	Shares Purchased		Total Consideration		
	Number	Percent	Amount	Percent	Average Price Per Share
Existing stockholders and noteholders, collectively	7,066,973	77	55,026,801	79	7.79
New investors	2,150,000	23	15,050,000	21	7.00
Total	9,216,973	100	70,076,801	100	7.60

The discussions and tables above are based on shares of common stock outstanding as of December 31, 2013 after giving effect to the 1:14 reverse stock split and the issuance of common stock comprising a portion of the units sold in the offering and in the note conversions. This number excludes 1,935,167 shares subject to warrants and options outstanding as of December 31, 2013 and any warrants comprising a portion of the units sold in this offering or in the note conversions.

DIVIDEND POLICY

We have never paid cash dividends on our common stock and do not anticipate that any cash dividends will be paid in the foreseeable future. Our future dividend policy will be determined from time to time by our board.

HOLDERS OF OUR COMMON STOCK

As of February 7, 2014, we had approximately 606 registered shareholders of our common stock and 5,029,920 shares of common stock outstanding.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND OPERATING RESULTS

Except as otherwise indicated, all information included under this "Management's Discussion and Analysis of Financial Condition and Operating Results" heading reflects the 1-for-14 reverse stock split effective January 29, 2014, but does not reflect the issuance of an estimated 2,037,053 units to the noteholders in exchange for the conversion of $10.6 million principal amount of outstanding promissory notes and the approximate $3.7 million of accrued and unpaid interest thereon through the assumed conversion date of March 14, 2014.

General

You should read the following discussion and analysis of our financial condition and results of operations together with our financial statements, including the related notes, set forth elsewhere in this prospectus. This discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of many factors, including, but not limited to, those set forth under "Risk Factors" and elsewhere in this prospectus.

Our financial statements are stated in United States dollars and are prepared in accordance with United States generally accepted accounting principles.

Recent Accounting Pronouncements

There have been no new accounting pronouncements made effective during the year ended December 31, 2013 or not yet effective, that are of significance, or potential significance, to us.

Recent Developments

Reverse Stock Split

On January 29, 2014, we effected a 1-for-14 reverse stock split of our common stock. No fractional shares of our common stock will be issued as a result of the reverse stock split. In the event the reverse stock split leaves a stockholder with a fraction of a share, the number of shares due to the stockholder will be rounded up to the nearest whole share.

Conversion of Promissory Notes in Exchange for Equity Securities

On December 16, 2013, we entered into a note conversion agreement with each of Thomas Girschweiler, an affiliate and former director of the Company, and Walter Villiger, an affiliate of the Company. The noteholders hold, as of December 31, 2013, an aggregate of $14.1 million, including $10.6 million principal amount of outstanding promissory notes and approximately $3.5 million of accrued and unpaid interest under secured convertible multi-draw

term loan facility agreements entered into with each of the noteholders on January 11, 2008, which we refer to as the facility agreements. Pursuant to the note conversion agreements, the noteholders have agreed to convert on a private placement basis the outstanding indebtedness, including accrued interest thereon through the closing date, into units on substantially similar terms as the offering. In connection with the note conversion, the noteholders will release all security and the facility agreements will be terminated. Such conversion will occur concurrently with the closing of the offering. Cash will be paid in lieu of any fractional units that would otherwise be issuable. On February 11, 2014, Mr. Girschweiler and Mr. Villiger assigned their respective rights and obligations under the promissory notes, the facility agreements and the note conversion agreements to entities wholly-owned and controlled by the noteholders, namely WAVI Holding AG in the case of Mr. Villiger and Taurus4757 GmbH in the case of Mr. Girschweiler.

Nasdaq Capital Market Application